

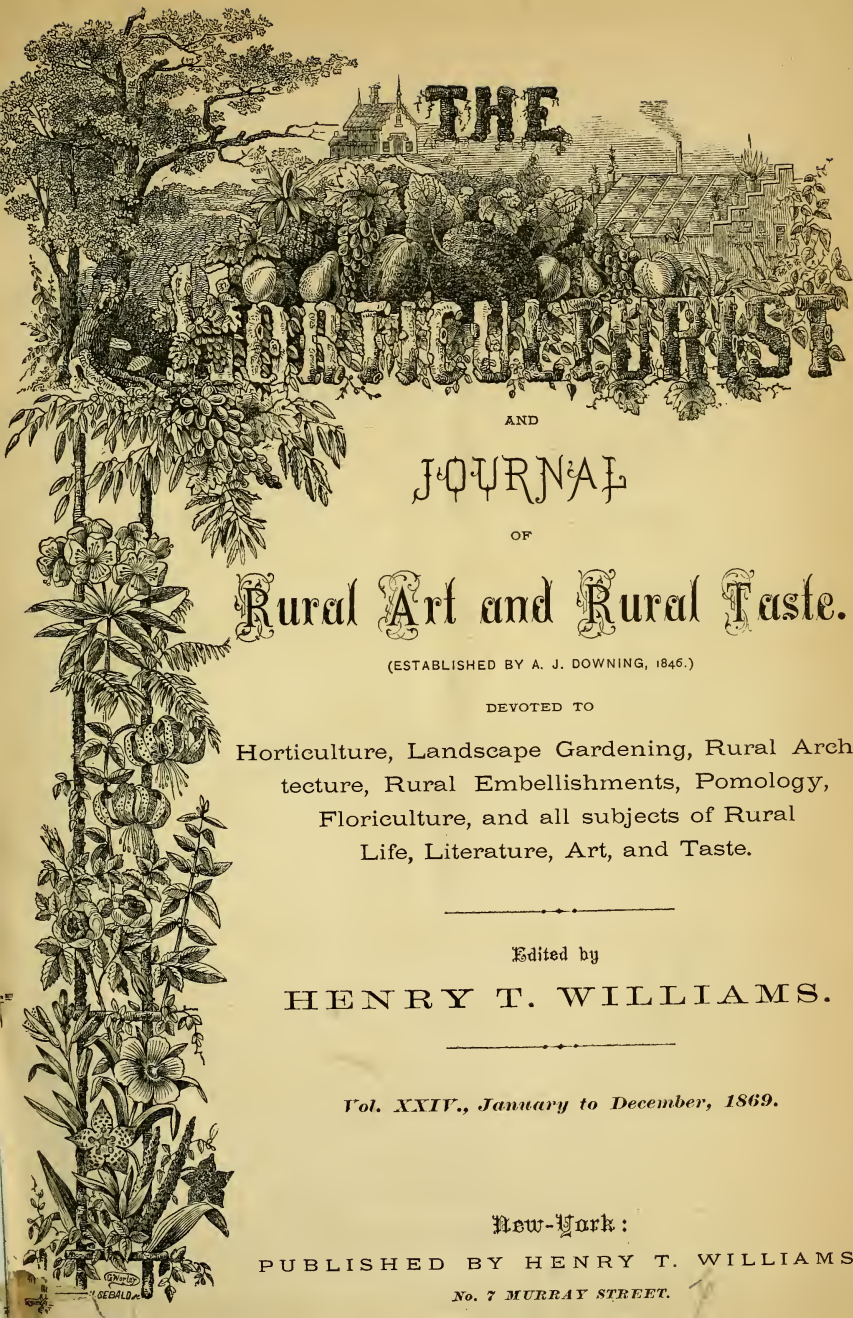


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THE
HORTICULTURIST
AND
JOURNAL
OF
Rural Art and Rural Taste.

(ESTABLISHED BY A. J. DOWNING, 1846.)

DEVOTED TO

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Practical Hints to Fruit-Growers.

BY H. T. WILLIAMS.

No. I.—How to Send Fruit to Market.

THE profits of fruit-culture are its most interesting feature ; but in the management of all the various departments and processes, from the time the fruit-bud begins to swell down through the various periods of cultivation, gathering, and sale, not one point has so direct and practical an influence on the market price of the fruit as the proper method of packing and shipping it to market.

What should we say of a grower who bestowed upon his darling vines or trees every requisite of cultivation—manuring, mulch, pruning, and protection from cold winds—and yet, when marketing-time came, either forgot or neglected to take the necessary precautions in shipment and transportation, causing his produce to suffer in price as well as in appearance?

Fruit-culture and marketing are as much unlike the management of vegetables and grain as the fine arts differ from the plain mechanics. In the one, there are taste, and care, and attention ; in the other, almost any system seems to answer, and allow wide latitude to suit individual preferences.

What should we say of a farmer who packed his apples into a barrel, large and small, sound and bruised, all together, and headed it up for market in the same manner as an ordinary barrel of potatoes or turnips, without ventilation and careful packing, or should send his berries in large buckets or gallon measures ; the top appears so fair and bright, but their deeper mysteries show a mashed and bruised mass, unfit either for the sight or the taste.

From beginning to end, fruit-culture demands the very closest care and highest taste. It is the fine arts of agriculture ; full of interest and pleasure, to be sure, but always accompanied with a large amount of pains and labor.

If a person desires to enter fruit-growing, let him first attend our markets ; observe how business is conducted ; let him watch closely all the minutiae of the receipt of produce ; let him learn how it should be packed ; let him see how it is sold, what great differences there are between the same articles showing evidences of right attention and others which have received none, and he will receive so many hints of value and use that they will alone form a capital to commence business with of no inconsiderable an estimate.

Nearly every fruit-grower desires a big price for his goods, and is disappointed if he

does not receive it. If there is a failure, he thinks it can not be his fault, yet in seven cases out of ten the reasons can be traced back to himself.

Now, in this article, I propose to give a few simple practical directions, showing how every man should send his fruit to market, how he will save much time and inconvenience to himself and his merchant, and what effect it has on the receipts, proving the difference between a good method and a poor one.

MARKING.—Dealers often complain of the manner in which fruit or produce is sent to them by growers. Merchants often receive letters from distant shippers, stating that they have sent a number of barrels of plums, or pears, or apples, to his address; but when received, they bear no marks whatever to indicate the *name* of the *shipper*, and frequently lots get separated, and arrive in different cars or boats, or at different times. Remember one simple rule: put on each package the name of the merchant it is sent to, and also your own name, that the empty box or basket may be returned again without the possibility of a mistake. All articles to be sold by weight should have double figures marked upon them: first, the entire or *gross* weight; second, the net weight or *tare* marks, showing the weight of the package alone. Articles to be sold by count should have the number of pairs or dozen; also, mark the names of the different kinds within. All marking should be done neatly, plainly, and correctly upon each package. These rules answer as well for vegetables as for fruit.

SHIPPING.—Invariably take receipts from transportation companies. Make out duplicate invoices, full and correct. Place one *marked bill* in one of the packages sent, that it may be seen quickly by the merchant on arrival. Also, advise the merchant immediately by mail of shipment, inclosing duplicate invoice. Commission men experience vexatious delays by receiving consignments not properly marked, and without any invoices or advices concerning them. Send all perishable fruits, such as peaches, plums, berries, etc., by the very quickest conveyance, and at such time as to reach the market from three to five o'clock A.M. These hours are the best for the sale of such articles, for during that time the burden of trade with retail dealers is transacted. Although there is a constant trade all day, yet the early part of the morning is the best.

PACKING.—In packing apples and pears, berries, etc., do not aim to deceive the purchaser by placing all the best fruit at the top and leaving a worthless mass at the bottom. If a buyer is once deceived in buying a mark of fruit, he will ever afterward either refuse to buy at all or take it at a large discount. But, on the other hand, if the article runs uniform all the way through, and is of good quality, well selected, it is an object of eager search and inquiry, and the seller can obtain an increased price by the competition. Also, bear in mind that good fruit, well put up, and reaching the market in good order, will always sell, even when the market is glutted; while fruit poorly put up can sometimes be hardly disposed of as a gift.

Nothing whatever is gained by sending fruit in packages or measures which contain short weight or measure, that is, in barrels which are less than flour-barrel size, or baskets holding really but twelve to fourteen quarts, when they should hold half a bushel, or in boxes less than the measure intended. If fruit is too soft or too ripe to pack in full-sized packages, pack in those of half or even quarter size; but by all means give full measure, and try to pack so firm and full that on arrival here they will open well, and not look as though there was a short measure and some more wanted to fill to the top. If the larger and sounder fruit, such as apples and pears, is packed firm, they have the merit of being able to come a longer distance and arrive in better order than fruit loosely packed; for all packages are subject to more or less rough handling, and loose fruit will be badly bruised, while solid fruit will be uninjured.

All packages should be neat and clean, and, if possible, new, especially since the package helps to show the contents to better advantage, and will sell better in consequence of the pains bestowed upon it.

GATHERING AND HANDLING.—Every intelligent fruit-grower will handle his fruit with the greatest care, so as not to bruise it, even the slightest. Oftentimes, when fruit is packed, slight bruises are unobserved and do not show, but ten hours afterward the article is half, if not wholly, decayed. Not only is itself injured, but it causes the fruit in contact with it to decay, and the sale of the entire lot is rendered nearly impossible.

Imperfect or decayed fruit can not be sold, save at a very large discount.

It would be well for all shippers to exhibit more care in gathering. It is not the proper method to mount into the tree, and, by a vigorous shaking, cause the fruit to fall with force on the ground. Such a method may be easy, but nearly every specimen will have a bruise, and be unfit either for a good sale or long keeping. The fruit must be carefully picked by hand, in baskets or bags, by mounting either into the tree or from ladders. This process may be more troublesome, especially in large orchards, but the extra care will cause a good reputation, and this always commands a higher price than other less careful competitors.

After the fruit has been packed, handle with the same attention, as a blow or fall will penetrate through the entire package, bruising the contents oftentimes severely.

ASSORTING.—It is always of prime importance to assort fruit according to its quality. The best quality, of course, always brings the highest price, and gives reputation to the grower. It is best, generally, to send no poor or indifferent fruit to market; but if it must come, let it be sent entirely by itself, and not mixed with good fruit. Too much care in all these little particulars can not be exercised. Let growers try it for one season, and they will be so practically convinced that "*it pays*" as never to forget the lesson.

STRAWBERRIES.—These may be packed either in pint or quart boxes. If coming from a distance, over fifty miles, the twenty-four-quart crate is decidedly the most preferable size. In filling the boxes, put in berries of uniform size, rejecting all soft ones; face the box with nice fruit, and fill it rounding full, so that when packed in crates the bottom of the upper box will slightly touch or press the top of the fruit. Take especial pains to see that the baskets will carry solidly, and not be likely to move from one steady position. These directions will answer for all the large-sized varieties of berries; but if the grower has small berries entirely, it is better to use small baskets, two to a pint or three to a quart, and in crates allowing one hundred to one hundred and fifty of these baskets.

RASPBERRIES.—These should be filled in boxes or baskets, containing either a pint or three to a quart size. The fruit should be carefully picked, boxes well filled, and the crates holding forty-eight pints or seventy-two thirds. It is a singular fact, that raspberries sent in *thirds* will net more per quart than if sent in quart baskets. It is hard to account for it, unless from the fact that, being smaller and apparently cheaper, they are more easily disposed of. We have known two lots of fruit from the same grower selling for thirty cents per quart in quart baskets, while by its size the same fruit in third baskets netted thirty-five cents per quart.

BLACKBERRIES.—Ship these the same as for strawberries, in baskets holding a quart, and twenty-four quarts to the crate. This size crate is the most popular in the market, because so easily handled, and the fruit, being better ventilated, will come in better condition.

CURRENTS may be sent in long shallow boxes, with covers which hook down, or, still better, in square boxes which hold eight to ten pounds, and of which four to six form a crate. The boxes should be of thick wood, so as not to be likely to warp, and the fruit inside well rounded. Deep measures should be avoided. We have seen currants sold in bushel measures, but the bottom fruit was always badly mashed.

CHERRIES.—These being of a very delicate nature, and at the present time becoming quite scarce and high, require unusual attention. We have seen them arrive in market with neat thin pads of cotton between each layer of cherries. Others we have seen arrive in small round boxes holding hardly three pounds. But the same style of boxes used for currants or grapes can be used. It is rarely ever desirable to send in packages holding over ten pounds.

APPLES.—Assort those which are of uniform size and quality; pack in clean barrels; take out one head, then commence laying the apples at the bottom in tiers. Let the first row, or layer, be placed with heads down. Then fill up the barrel carefully, soundly, firmly, and so full that in putting on the head it will be necessary to press quite hard.

Nail the head and hoops with fourpenny nails; then turn the barrel upside down,

and on the head not opened nail the card containing the name of the merchant and also the name of the variety of the apple. When the fruit arrives at market and is opened, it will show a fine, handsome face. Never send a wormy apple to market.

PEARS.—This fruit, naturally so delicate, must be picked and shipped when it is fully matured, but before it is entirely ripe, so as to be sure of arrival in good order.

Pears do not have the same elasticity as apples. Line the sides and bottom of the box, or barrel, or basket, with straw paper, to prevent the fruit from being bruised by chafing.

Assort and pack same as apples, except placing the blossom end of the fruit upon the bottom of the package. When the package is full, press and nail the head in firmly, without starting the juice. Summer pears, if over two days on the way, should be ventilated, otherwise the package should be tight, as the fruit will ripen more uniformly and hold its color better.

QUINCES.—Assort these to run uniform ; pack in the barrel same as apples, except putting the blossom end *down* instead of up. When the barrel is full, press the head in hard, rather harder than for pears, but perhaps not as much as for apples. Nail firmly, and mark the name on the end not opened.

PEACHES.—The public are already familiar with the manner in which these are sent. Some in crates, some in stave baskets, some in withe baskets. The slat crate is most preferred, containing two end and one middle pieces. Each of these are one inch thick, and eight by eighteen inches surface ; the slats are from two to six inches wide, and about half an inch thick, with spaces between of half to three quarters of an inch. They usually hold one and one quarter bushels, heaped measure, or two baskets, each basket five eighths of a bushel.

Stave baskets are better than splint baskets where baskets are to be used ; they are firmer, and protect the fruit better.

Sort all the fruit uniform, both in size and quality. Fill the baskets rounding full, and shake down, so that they will be tight and not move in handling.

The peaches should be picked by hand, be perfectly dry, sound, and within about five days of ripening. Reject all bruised ones.

BERRY-BASKETS.—By all means use good, clean, strong baskets ; those which have good measure carry well and are well ventilated. Cheap boxes, baskets, and crates are not worth using at any price. They are not liked by either the commission merchant or the retail dealer, and fruit always sells cheaper than if it had come in good, permanent, return baskets. The extra price on a single shipment will often pay for the entire cost of the baskets.

Gift-boxes are useless. It has been found by experience that this theory, very pretty in the abstract, does not work in actual practice ; instead of being a help, it becomes a mere foot-ball, repudiated alike by both buyer and dealer. It is not our duty to decide as to the merits of all the various styles of berry-baskets. A majority of them are unfit for use, the manufacturers seeming to strive to furnish baskets as *cheap* as possible instead of as *good* as possible. In our markets, we always hear *round* baskets, with slats at the sides, uniformly well spoken of. There is better ventilation both among the berries of each basket and also between the baskets. The *square* baskets, with slats at the sides, are also popular, because of the great economy of space in packing. For reasonable distances, the fruit will carry just as well as in the round styles, and save a large amount in expenses of transportation. They are also cheaper in price.


I believe that the prices of berry-baskets—good, strong, and permanent for return purposes—is still too high. None should be over twenty dollars per thousand, and we hope machinery and ingenuity will be introduced to enable a supply to be furnished at still lower prices.

Lastly, do not change commission merchants often. Their business is greatly expedited if they know the value of the productions sent them for sale. Each merchant has choice customers, and it is a pleasure to him to have a regular supply of choice fruit to be depended upon. If he receives daily supplies of such good fruit, he creates a steady market for it, and is able to keep it up ; but if it is intermittent, sent only occasionally, or is delayed, or sent for a time and then withdrawn, it is alike vexatious to all parties and injurious to the grower.

If a right system is pursued, the highest price that the article is worth is demanded, and is paid readily, without examination or delay, because the buyer has confidence in a reputation already established.

There is another drawback. Some growers are suspicious of commission men generally. They will send a small lot to one man, a small lot to another, sometimes a dealer will get only a few lots in the whole season. No course can be worse, for the dealer has no sympathy with the grower; however good the fruit may be, it is of no consequence to him, because he can not depend upon it to sell; and more than this, he will naturally feel resentment at the want of confidence the grower has shown. The way to do is to take pains to learn that a dealer is honest and will do the best he can, then stick to him constantly. We know of cases where growers have sent to one commission man for eight or ten years, and if there were shortcomings, a threat of withdrawal was sufficient to secure a remedy.

Philadelphia Raspberry.

 WOULD like to say a few words in defense of this berry, because I believe it possesses in a high degree those qualities that are needed in a variety for general cultivation. I have seen it growing on *very* light land, unmanured, where it maintained its size and general character of fruit perfectly, and gave a very fine yield. I fruited it myself on very choice land and under the most favorable circumstances, giving it the very highest possible cultivation, using rotted manure plentifully when planting, and in the spring, before fruiting, covering the ground with it completely. The result was, not an overgrowth of canes, but a very great increase of fruit. I have seen it besides on different soils and in widely different locations, have made inquiry in different directions north, west, and south, and have yet to learn of a single failure, either from disease or the extremes of heat and cold, or the peculiarities of any location, soil, or climate. Thus, where most other red varieties fail, the Philadelphia is sure to succeed, and where they succeed it is equally sure to surpass them all in those two great requisites, *quantity* and *certainty* of fruit.

Those who go to encounter the extreme cold of Minnesota, the bleak winds of the western prairies, or the burning sun of the southern climates, can take this variety with them as a constant friend that will always yield its supply of fruit for the comfort and sustenance of the family.

As to its quality, no one ever claimed that it equaled some of the delicate, high-flavored sorts that need to be shaded in summer and wrapped up in winter to produce their scanty crop, and which would exhaust even the resources of "Wall Street" in the unavailing effort to produce fruit enough to supply our people's need. But it is a question whether its flavor, or rather want of flavor, is any objection to it. The wisdom of the Creator is seen in his giving to every class of his "blessed fruits" a great variety of flavor, thus humoring the veriest whims of appetite; and the Philadelphia raspberry finds appreciating tastes among thousands of consumers, and never disappoints their expectations.

Two gentlemen stepped into our office, a few days since, and, during the conversation, one of them spoke of seeing some Diana grapes that had been kept till the month of May, and he thought them better than when fresh, as they had lost in some measure their *musky* flavor. "But," interrupts the other, "*that is what I like, and my wife thinks the Diana far superior to the Delaware.*" Now, these persons are all intelligent in fruit, yet to one the Delaware is tame and insipid, and to another the Diana is rank and offensive; but neither of them would be "good horticulturists," if they should condemn or fail to recommend either of these grapes, however offensive to themselves, knowing as they do that they are favorites with many. This shows how absurd it is to suppose that all fruit must have the same high flavor to be valuable. What we want is *more* fruit, an abundance of it everywhere, so as to become a staple and universal article of diet; so plenty and so cheap that the poor, and the children of the poor, can gratify their desire

and nature's demand for it. How many *children* are there in the country that would refuse a dish of Philadelphias, or, if allowed to go into the patch, would not help themselves liberally, and never once think that their goodness all lay in "sugar and cream"? The universal demand for fruit can not all be met by the market-gardener, nor from *any other* source but the family garden, and to encourage *home fruit-growing* should be the aim of every "good horticulturist." The *best* fruit any man ever eats is that he raises himself in his own little yard or garden; and though he may be comparatively poor and unable to purchase costly adornments and surroundings for his family, yet in this, among the best of home comforts, he stands an equal chance with the rich, and may "gather round him fruit and flower as fair as Eden had." But if in his first attempt his plants all winter-kill or fail to produce fruit, he will be discouraged from any further experiment; and this cause has given a more severe check to general fruit-growing than any other, as a want of success will in any business. If, then, we would encourage fruit-growing, we must disseminate those varieties that will recompense, not disappoint, the hopes, that will strengthen, not weaken, the faith of the masses in the enterprise. And for this purpose, the Philadelphia is among the red raspberries what the Wilson is among strawberries—not by any means the best-flavored of them all, but still of good quality, perfectly hardy, and a sure and great bearer. And I would cheerfully recommend it for family culture, even though hard-earned money may be paid for it, as it will always answer the expectations with a bountiful yield of really good fruit.

JOHNSTON.

PALMYRA, N. Y.

Plant Trees.

BY THE EDITOR.



HE man lives not in vain who plants trees—who plants them everywhere, in the street, around his dwelling, up and down the fields, along the brooks, on the hills.

While living, they are, in their life, leaf, blossom, and shade, as near and dear and welcome to him as kindred or friends; silent but beautiful companions. The graceful droop or waving of their branches is a continual greeting and blessing.

A child brought up in familiarity with trees, who has been taught to love them and care tenderly for them, to appreciate their beauty, whether graceful or grand, has learned something by which name, reputation, dress, or gold can bear no comparison or give not a tithe of the pleasure.

How dearly the old man loves to sit in the arm-chair under the trees he planted years ago when he was young! They have grown grand and beautiful and strong. What a contrast they are to his weakness and bent form; and yet what a feeling of comfort they seem to give!

But when he has gone, and life has ripened and died away as rich and full as the fall of the brilliant leaf, how precious the name and memory left behind! Existence may be lost to sight, but the trees carry his name on forever to distant generations. Such a one can ask no better epitaph than this:

HE PLANTED A TREE,

AND THEY

THAT RECLINED IN ITS SHADOW

Rise up and call him

BLESSED.



A New Rose—The Gem of the Prairies.

THIS is one of the most valuable acquisitions made to our collection of roses that has been originated in the last ten years. It was raised by Adolphus Burgess, of East New-York, from seed, being hybrid between the well-known climbing-rose Queen of the Prairies and the Hybrid Perpetual Madame Laffay, possessing the climbing qualities of the Prairie Rose with the richness of color and delicious fragrance of the Hybrid Perpetual. The color is of a light shade of crimson, occasionally blotched with white. The flowers are large, perfectly double, and of fine form, which are borne on trusses, numbering from ten to twenty buds on each. This will, no doubt, become a standard sort, possessing, as it does, all the free-growing qualities of a climber, with the odor of the damask or moss.

A Modern Villa.



WE present the accompanying view and plans of a suburban villa, as the first of a series of designs intended to be illustrated in our pages during the coming year.

This design is intended to be executed in wood, as stone or brick at the present time are too expensive materials to be considered in the erection of a dwelling of moderate cost. In sections of our country where the materials could be procured at reasonable rates, we should prefer brick or stone for the erection of nearly all classes of buildings. The plans show a convenient arrangement of rooms, giving sufficient accommodation for a family of moderate size. On the first floor, we have a large parlor, a dining-room, and a library of convenient size. Convenient closets are attached to the dining-room, which is separated from the kitchen by three doors, thus cutting off all odors. A central hall gives access to all rooms without passing through others, while the rear hall and staircase will be found a convenience not to be overlooked. The verandas give an air of comfort to this design, adding also an important feature to its exterior effect, and are easily accessible from all the principal rooms. On the second floor are fine chambers, supplied with abundant closet-rooms, and conveniently arranged with regard to each other. The small room on this floor is intended to be used as a bathing-room, for which purpose it is conveniently located. A tank in the attic story supplies the bath-room with water, and the plumbing is such as is necessary to supply the bath with hot and cold water.

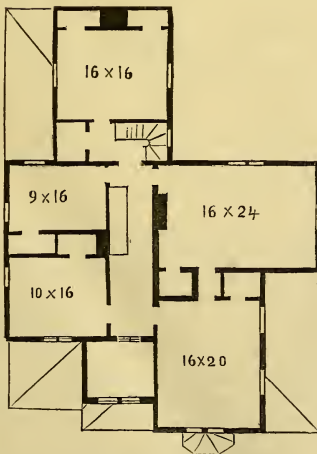
Several rooms can be finished off in the attic, if more accommodation is desired, and the observatory in the tower may be also used as a sleeping-room in case of emergency. The cellar extends under the whole house, is of seven and one half feet in depth, divided by partitions into apartments for furnace, coal, vegetables, and milk. A furnace of larger size is intended to heat the whole house in cold weather, but there are also grates in parlor, dining-room, and library, to be used on cool days in spring and fall when it is not considered desirable to start the furnace. We advise all who contemplate heating houses by furnaces, to get the largest size, as it is much more convenient and economical in the consumption of fuel than a small one, while the outlay at first is comparatively trifling. The interior of this house is intended to be stained in oak and black walnut, and varnished; the exterior, to be painted with three or four shades of drab or gray.

An elevation of three feet above the ground gives an opportunity to light the cellar very thoroughly. If it were considered desirable, the kitchen could be in the basement, thus adding another room to the accommodation of the first floor. We are not in favor of basement kitchens, especially for country-houses, but in some exceptional cases they seem desirable. It sometimes happens that a house is located in such a position that a fine landscape view would be cut off from the rear rooms by the kitchen apartments.

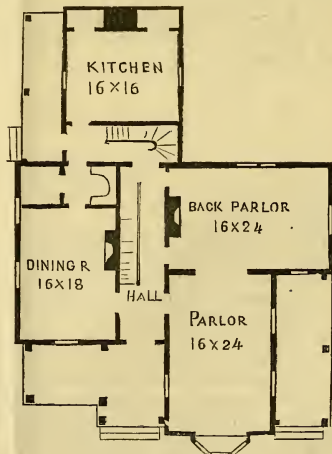
The grounds of such a house should be laid out in a neat and tasteful manner. The services of a competent landscape gardener should be secured, at least to plan the planting and laying out of the walks and roads, if the actual superintendence be intrusted to other hands. Very many persons imagine that, to beautify a country place, it is only necessary to plant trees and shrubs, and that any one can do this; in consequence, we too often see a dozen trees planted where one would be sufficient, and an incongruous mass of shrubs and trees of all heights and habits of foliage, without order or arrangement.



DESIGN FOR A MODERN VILLA.



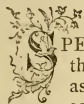
SECOND FLOOR.



FIRST FLOOR.

Dr. Reeder Pear.

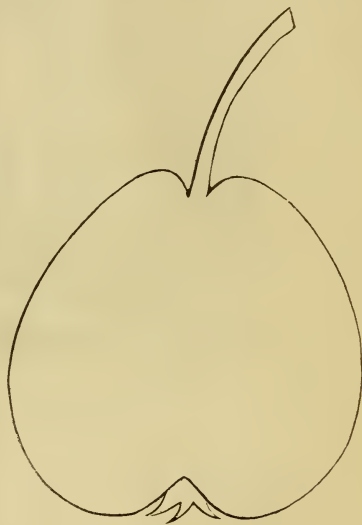
BY CHARLES DOWNING.



PECIMENS of this fine new pear were sent me in the autumn of 1866, and again this autumn, by Dr. Henry Reeder, of Varick, Seneca county, N. Y., and as far as I am able to judge from the specimens, think it will prove an acquisition, especially for home use, coming in at a time when we have but few of the best varieties.

The Doctor informs me it was raised from a seed of Winter Nelis, and the tree standing next to a Seckel, it is probably a cross between the two. The tree is about fourteen years old, sixteen feet high, eight inches in circumference, and has been grown all the time in grass sod without any cultivation or pruning. It is very healthy, vigorous, and of a spreading form, and an excellent bearer, having borne a good crop for several years in succession. The finest specimens are about as large as a good-sized Vergalieu. It ripens the end of October, and continues in use during the month of November. Young shoots, olive brown.

Fruit rather below medium size, obovate, obtuse pyriform, often slightly furrowed on one side; skin fine yellow, nearly covered with thin cinnamon russet; stalk long, slender, slightly curved, a little inclined, inserted in a small cavity; calyx large, open, segments large and long, recurved, basin of medium size, regular; flesh whitish, slightly granular, juicy, melting, very sugary, slightly vinous, with a musky perfume; quality very good, or best.



A Little about Peonies.



WHEN we talk with any one about flowers, we invariably hear them speak of the beautiful peonies, or *pinys*, that grew in their father's garden, and so, as we travel through the country and notice the flowers that serve to enlist a small portion of the time of the good housewife, and grace with bloom some one little portion of the ground surrounding the house, the large and brilliant showy blooms of the old-fashioned peony are in their season conspicuous among all. We remember what a *furor* the introduction of the white peony caused, and how every lover of flowers sought to obtain the fragrant scarlet one; but then for many years no special change in the colors or characters of peonies was brought out, and gradually they seem to have been shoved aside to give place to some new thing possessing less than half their beauty and requiring double their care to cultivate.

Again there are few, comparatively, who know of the great diversity of colors, forms of flowers, and periods of blooming, that now are embraced in the list of herbaceous

or Chinese peonies. Over one hundred varieties are named in the catalogues, and described as distinct in form, color, time of blooming, etc. ; but as many of them are so near one to the other as to be distinguished only by the florist, they are not all essential to the making up of a showy, beautiful, and long-blooming bed of peonies. Although the peony is showy even by itself, yet when planted *en masse* in a bed the effect when in bloom may be truly called magnificent. For the benefit of those who have not knowledge of the many varieties, we will name and describe a collection of, say, twenty varieties, and if the planter will arrange them in a bed, with the darkest shades in the centre, our word for it, when they come into flower, he or she will feel pride in showing it to all friends, as well as the public generally.

HUMEL.—One of the old varieties, and yet one of the best, especially on account of its blooming very late—often after the other varieties are nearly out of flower. It is large, a purplish-rose color, very full, and double.

FRAGRANS.—Another of the old ones. Violet rose-color, full bloom, and very sweet.

AMABILIS.—Comparatively new. The outer petals are rose-colored, and the inner a delicate straw or creamy white.

BICOLOR.—This has deep, rose-colored, outside petals, with the centre yellowish, often tinged with red.

DUCHESSE DE NEMOURS.—One of the most showy and fragrant. A violet, almost lilac, with the centre petal often beautifully fringed.

DUCHESSE D'AUMALE.—Has the outer petals a light rose-color, and the centre a light straw, sometimes tipped with clear red.

LUTEA VARIEGATA.—One of the best light colors. Outside a flesh color, inside yellowish and fringed. A free bloomer.

DUCHESSE D'ORLEANS.—Has the outside petals of a violet rose, and the centre deep salmon buff.

FESTIVA.—A very globular-shaped flower, pure white, with occasionally a little of carmine-red in the centre.

POMPONIA.—A very distinct variety ; large, of a purplish-pink, with a salmon-colored centre.

WHITTLEI.—One of the old ones, but yet one of the best. Large and sweet, white, with a yellow centre.

PAPAVERIFLORA.—Another good white, or rather creamy-white, with a red centre, and sometimes a tip of red on outside of petals.

POTTSII.—One of the very darkest, rich, purplish-crimson.

QUEEN VICTORIA.—One of the largest of flowers, a delicate rose-color, almost white in centre—fragrant.

HUMILIS.—A small single flower, very early to bloom, of a bright rose-color.

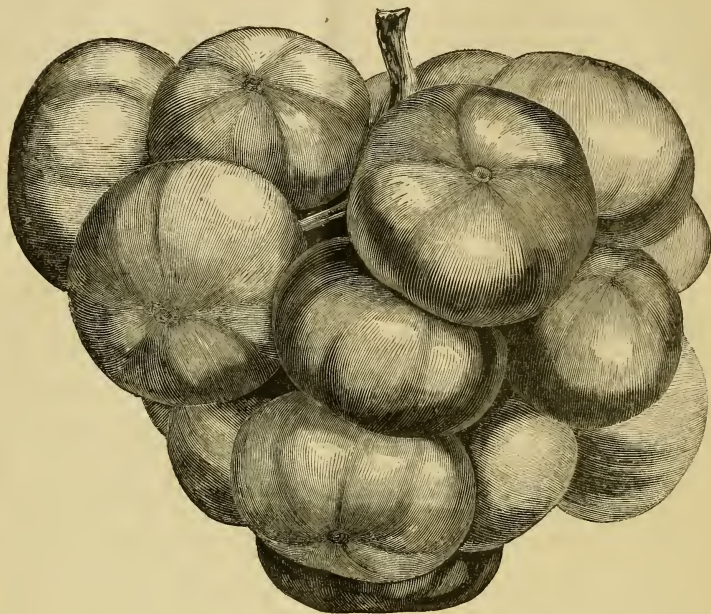
ALBICANS PLENA.—Of a rosy pink, almost bluish white, and blooms early and late.

TENUIFOLIA FLORE PLENO.—Curious, from its funnel-like leaves. The flowers are crimson.

NEMESIS.—Small, dark, crimson flowers, quite double.

POMPADOURA and **RUBRA STRIATA** have both dark, crimson, compact flowers, the centre petals of Pompadoura being slashed, or almost fringed.

These last six varieties are not strictly Chinese peonies, but their care and cultivation is the same, and by their blooming in May, the season of beauty of the peonia group is lengthened from two to three weeks.



The Crimson Cluster Tomato.

BY PETER HENDERSON



HIS is the vegetable novelty of the season, entirely distinct from all other varieties, in the fruit being formed in clusters, having from fifteen to thirty of the average size of tomatoes in each ; each bunch or cluster averaging from four to six pounds, resembling in form a bunch of grapes, but with "berries" of mammoth proportions.

The fruit, as shown in the engraving, (one third of the natural size,) is perfectly smooth, of a scarlet crimson color, delicately tinted with specks of golden yellow. Independently of its value as a vegetable, it is a highly ornamental plant trained against a trellis or wall, so as to display its immense grape-like clusters of crimson fruit.

It was originated in 1867, by Robert Revelle, Florist of Norwich, Ct., who claims it not only to be entirely new in character and beautiful in appearance, but having the valuable quality of ripening the whole cluster of fruit at once, and *earlier* than any other variety of its size that he has tried. Mr. Revelle's opinion is worthy of entire credence, being a practical horticulturist, with no interest whatever in the sale of the seeds or plants of this tomato, and is well known in the trade as a man of sterling integrity.

Asparagus.

BY D. P. BRUEN, NEWARK, N. J.



HERE is, perhaps, no succulent vegetable more generally valued for its palatable, nutritious, and healthful qualities than asparagus, which can be successfully cultivated in any climate, from the tropics to the cold, bleak shores of Lake Superior, where it is found growing wild. Asparagus is also found in its wild state in low and often flooded fresh and salt meadows, as well as in the barren salt sands of the seashore, and, when brought under proper cultivation, it gives a greater return for the labor bestowed than any other production of the market garden. Its proper mode of cultivation is less understood than any other vegetable produced for table use. My first knowledge of asparagus, (when a boy,) some forty-five years ago or more, was an old bed in my father's garden, which bed was put out by my grandfather before my father's recollection. There the asparagus was cultivated, on the same spot of ground, until about 1810, when it became necessary to have the garden in another location. The old asparagus roots were removed and carefully put out again, where they remained until 1852, when the bed was destroyed for the purpose of erecting a building. From the time of the removal of the roots until they were destroyed, forty-two years elapsed, and from the time of the first planting of the roots by my grandfather till they were destroyed was at least one hundred years.

MANURING ASPARAGUS BEDS.—The bed was always well cultivated; the old stalks were cut off in the fall; the bed was liberally covered with manure, which was forked in the spring. Until its destruction, the asparagus never decreased in quality or quantity. These facts of my own knowledge are satisfactory to my mind that the limited production of asparagus is only from a neglect of its proper cultivation. I find a great variety of opinions with writers in relation to the correct mode of propagating and cultivating asparagus. Some writers say it is necessary that the earth should be removed three feet deep, or more, and the bottom filled in with stone, old boots and shoes, and the earth removed should be mixed with manure and returned, and the plants or roots should be set out eighteen inches or two feet apart, and be planted twelve inches deep. Others say that six to fifteen inches apart, and four to twelve inches deep, is preferable. With such badly-balanced opinions among so many theorists, no definite mode of cultivation could be arrived at. Some ten years since, I made an entirely new garden where I now live, and always having enjoyed the luxury of asparagus without depending upon the market for my supply, I determined to make a bed to suit my own views of the nature of the plant. My soil is a sandy loam. I prepared my ground with a large quantity of well-rotted manure, and divided my ground into beds five feet wide and twenty feet long. The ground was then dug up one spit deep, the length of a long spade blade. Believing that asparagus required the warmth of the sun, air, and surface moisture, and having no fear that the roots would run down beyond my control, I had my bed trenched (or marked out) four inches deep and twelve inches apart. The roots were two years old, and were taken from a garden adjoining my own. They were placed in the trenches twelve inches apart, as soon as dug from the ground where they grew. Each branch of the roots was spread out horizontally, and they were all covered four inches deep. The asparagus grew apparently as well as though the roots had never been removed.

SALT FOR ASPARAGUS.—The next year I cut from the bed in sufficient quantity for my own table. Every season, when the weeds commenced growing, I sowed broadcast one half bushel of salt, and the same quantity twice afterward, as the weeds began to recover. I always have asparagus before any appears in the market from the market-gardens in the neighborhood, and cut it every day from the time I commence until the season ends. The productiveness of my bed has increased every year, and all gardeners and others who have seen it pronounce it the most prolific bed they have ever seen. The average growth of the stalks, at the time of seeding, is five to seven feet in height.

I never cut my asparagus until it has grown at least four to six inches above the ground, and we never cut it over one inch below the surface. Some writers advise cutting two to six inches below the ground. But at that depth the bottom of the stems is always tough. Prof. Mapes once stated that there were twenty-eight species of asparagus. Some writers have attempted to classify the different qualities. With my experience in raising and largely consuming the article, I think that I could quite as easily distinguish between the taste of a white hen's egg and that of a black one, as I could tell the difference in the quality or taste of the purple or blue-headed asparagus from that of any other color or species of the plant.

PLANTS.—No plant will pay the market-gardener so much money for the labor as the asparagus. But remember, always grow your own roots from seed; trust not the seed-shops for roots. If once you have got a good, healthy plantation, the bed will not run out for a hundred years, provided it is always kept free from weeds, and manured well. I manure mine four inches deep each year. From my bed, eighteen by thirty-six feet, I take at least fifty dollars' worth yearly. To those who wish to grow their own plants, it is simply necessary to sow the asparagus in drills like onions; cultivate well the first summer; if they do well, they will be large enough in the fall to set out then, or during the next spring; in two years from that time they are of sufficient strength to stand cutting.

Asparagus comes only from one common centre, and hence it is not advisable to purchase old plants.

Many do this, thinking they can get a product so much quicker, but they are mistaken; young plants are invariably the best. Neither must the roots be planted too deep. If the roots are near the surface of the soil, the stems will start much earlier than if put a foot below, as is usually practiced.

THE ASPARAGUS BEETLE.—This asparagus beetle has become a formidable enemy to asparagus culture on Long Island, and it appears to be slowly spreading inland. It is now ten years since it made its appearance in this country, having been brought from Europe, where it has been known for a long time.

Mr. A. S. Fuller states: "When living in Brooklyn, a few years since, my asparagus beds were attacked by this beetle, and I tried salt, lime, ashes, and various other things, with scarcely any success. There is, however, one pretty effectual remedy, and that is, allow your hens and chickens to run in the asparagus beds as soon as the beetle appears. Birds will also assist in their destruction, if permitted to do so unmolested. In the fall the asparagus tops should be cut down and burned on the bed, and a little straw or other combustible material added, as many insects or their larva will be destroyed in this way."

THE PROFITS OF CULTIVATION.—Inquiries have been made of commission-merchants and market-gardeners as to the money value of asparagus per acre, and their opinion is unanimous in the statement, that if rightly managed, an asparagus bed of several acres will pay a larger profit per acre than the same space devoted to any of our smaller fruits. Figures from \$400 to \$700 per acre have been named. When we consider how easily the crop is marketed, requiring no expensive berry-baskets or crates, or the trouble of renewing the vines every three or four years, or the possibilities of loss in times of picking, because of rain, etc., and that, once well established, it will last a lifetime, it should receive more attention. It certainly requires very rich land to grow large asparagus; but the yield is very great, very steady, and it always commands a good price in market.

THE BEST STRAWBERRIES.—A. B. Butler, of Columbus, Ohio, gives, in the *Farmer's Chronicle*, his experience on the culture of the strawberry in Central Ohio. For a large plantation for market purposes, he recommends the Wilson for the first half, and the Jucunda for the last half of the season. The Wilson comes in nearly as early as any of the valuable sorts, and gives its best fruit in about two weeks. When it begins to fail, the Jucunda comes well into bearing, and continues to produce its uniformly large-sized berries to the close of the season.

Combinations among Fruit-Growers



HAVE often been tried, but it is seldom they succeed in giving satisfaction to those who try the experiment. It is a well-known fact that the growers of the small fruits strain every nerve to secure a crop of good fruit, and it is also well known that, as a class, they are not large farmers, and consequently need the full proceeds of their crop to enable them to lay by a few dollars for a rainy day. Having succeeded in perfecting their crop, the next point is to have it sold at the best advantage and realize the most money for it.

In their efforts to secure this result, they frequently form themselves into a company, and send one of their number to the nearest city to dispose of their fruit at a less rate than is charged by the regular commission dealers. One of the latest ideas of combination was recently suggested by a prominent New-Jersey peach-grower. It was this: to secure a good dealer who possessed a prominent location, and hire him and his store at a certain price per month. Then, engage the services of a reliable and correct book-keeper to keep the accounts, and, to insure no loss from the thievish propensities of either of these persons, at least one of their number would be constantly on hand to watch them.

Another arrangement was made after this style. The association named one of their number to act as agent for the whole, and it was his business to visit the various cities, and select such dealers as he thought best to sell the fruit. This arrangement being made, it was the said agent's business to be at the depot to receive all the fruit; then having been furnished by the dealers with a stock of their cards, the agent nailed them on those cases he saw proper, consigning to each dealer all of one mark, or dividing it into as many parts, and sending to each dealer as many as he chose, and, if I mistake not, all bills were returnable through him to the owners of the fruit.

I now propose to show why these arrangements did not give satisfaction. It is well known that a stranger can not enter the market and dispose of a large lot of fruit to as much advantage as a dealer who is in business there during the entire year, for the stranger knows but few, if any, of those that he must depend upon to buy his fruit. Not so with a dealer who has his regular customers for the various articles that he may have to dispose of; and should an unusually large amount arrive, with an extra effort he can readily sell it to a good advantage, for he always knows who can be trusted for the money and packages. Besides, the dealer is well versed in all the variations and indications of a change in the market, and knows when to sell. This is one of the most important items in fruit-dealing—to know when you have a good offer for the article. Some of the old dealers seem to know by instinct when to vary the market, and I have frequently been surprised to find all the prominent dealers change prices without the least private arrangement or understanding, nor did one know that the other had changed until the market was over and the articles disposed of.

I well remember a case in point. A gentleman once bought largely of peaches in the State of Delaware, and knowing the percentage of the regular fruit-dealers, he hired, as he thought, a cheap, shrewd neighbor, at a certain sum per month, to sell his fruit in New-York. One morning, at the beginning of the trade, he received a large consignment of fruit which was very fine—in fact, he had the control of the entire market, as but few others received any. A dealer quickly noticed this fact and asked his price. "Six dollars per crate," he replied. "I will take them," answered the dealer, and he resold them without handling for ten dollars, thus making a good profit. The agent saw that he had made a mistake, and determined not to be caught again in the same way, so on the following morning he asked \$10, but found no one ready to buy at that price, and held them until late, when he sold them at a lower price than the dealers. The cause of this was, that he failed to notice the arrivals that morning were much larger than on the morning previous, and that they were distributed among a larger number of dealers. The result of this experiment was, that instead of saving a large percentage in the way of commission, the owner of the fruit lost thousands of dollars through the ignorance of his agent.

There is another difficulty in the way of these country agents that they can not avoid, and that is, there are always a large number of unprincipled persons who notice him the moment he makes his appearance, and knowing him to be a countryman, consider him a fair object for them to operate on. They soon surround him, ply him with all kinds of questions, and by this course frequently drive the more honest dealers from him. If he should ask more for his fruit than an honest man can pay, and refuses to sell for less, they will buy it without a moment's hesitation, then pass their cards to him as reference, directing him where to deliver it. The fruit once in his possession, he pays any price for it that may suit him, or does not pay for it at all, just as he pleases, and the agent has no redress, for these men do not own a dollar that could be secured. I think I hear you say, "If that had been me, I would have made them pay for it before I delivered it." No, you would not, for that is not the custom; neither would they do it, for you are selling at a price that no honest man would buy at, and an honest man would not be prepared to pay cash, for he is accustomed to being trusted; and remember that, as all these men are strangers to you, you consequently would not know an honest man from a rogue.

There is one mode of swindling practiced by dishonest buyers, who are principally wagoners, upon strangers that come to sell berries. As all persons know who send strawberries to market in the splint baskets, the number of baskets in the crate is marked on the outside with chalk. These peddlers surround him, and while professing to buy, others of the same party rub out these figures, and alter them to suit their idea of profit, in some cases gaining one hundred baskets by the operation. When all is ready, they pick up the case, calling off the number and mark that they have arranged, and the fraud is not detected until too late to correct it. Sometimes they will steal the whole case if they have a good opportunity.

You may ask if these persons do not practice this game on dealers. Not often, for they are well known and watched accordingly.

In regard to agents who make arrangements with dealers for the growers, I will state that it is very seldom said arrangements prove satisfactory to the dealers or profitable to the owners of the fruit, and for this reason, that the said agent generally looks out for number one; for, after securing their rate of pay from the owners of the fruit, they proceed to make arrangements with such dealers as will give them the largest share of their commission in order to secure the trade. This plan is well known among dealers, but not so generally known among the owners of the fruit. Again, this agent stands between the dealer and the owner, which is entirely wrong, for should the dealer discover any thing wrong in the fruit, he writes to the agent; but in many cases, when the owner of the fruit arrives at the depot, in the haste of receiving, the agent forgets all about it, and thus the owner is kept in ignorance of his fault, which could easily be corrected if he but knew of it. Another point here is, that the dealer, knowing nothing of the owner, cares less about the result of the sales, as the agent gets a portion of his profit, and therefore disposes of it more readily at a less price, so as to get it out of the way of other fruit which he receives the full commission for selling. Another evil resulting from this method is, that the dealer never knows what mark of fruit he will receive until it is delivered to him; then in order to sell it quickly, it frequently happens that the berry cases are not opened, but sold at random in large lots to dealers to sell again, thus giving the owner of the good fruit no more than the poor fruit sells for.

Allow me to suggest a remedy for this agent business. Make it the business of one of the largest growers to go to the city and spend a few days, and become acquainted with a number of dealers in the line of fruit which you have to dispose of; and if you and your neighbors have enough fruit to send to two or more of them, invite those you select to come out in your section of country to examine your fruit. Then you can show them the varieties and kinds, and gain such information as will be interesting and useful to you in marketing your crop, and they will become interested in your success, and there will be a mutual understanding between you in sending and receiving that will be profitable and interesting to both parties.

NOW AND THEN.

NEW-YORK, December 15, 1868.



ADVANTAGES OF KEEPING HOGS IN ORCHARDS.

NOTWITHSTANDING all the evident advantages of jarring the trees daily, and arresting the operations of insects, we still believe that the practice of allowing hogs and poultry the free run of the orchard will prove the simplest and most practical means for overcoming the insect attacks on fruit. Dr. Trimble, being once asked, "What is the easiest and best means for subduing the curculio?" replied, "*Hogs.*" Well said. Now, let us look at a few instances of success in following out this treatment.

David E. Brown, one of the largest fruit-growers near Alton, South-Illinois, has for about five years kept both hogs and sheep in his apple and peach orchards. His fruit is not infested by insects nearly as much as that of his neighbors, although he employs no other precaution whatever to guard against the depredations of fruit-boring insects. His peach-trees are also free from borers, though he takes no pains to worm his trees. His hogs keep in good condition on the fallen fruit.

Mr. S. B. Johnson, of Alton, had, last year, (1868,) the best crop of peaches out of forty orchards in that neighborhood. He attributes the largeness of his crop greatly to the fact that, in 1867, he allowed a gang of hogs the range of his peach orchard all through the months of May and June, until the end of summer.

The *Country Gentleman* says:

"We know a cultivator who had heavy crops of plums for seventeen years in succession—his swine for these seventeen years, without a season's interruption, being allowed the run of the yard."

At Duquoin, Illinois, Messrs. Winter Brothers have a peach orchard of nearly eighty acres. For the past five years they have allowed a large drove of hogs to pasture in this orchard, that pick up all the fallen fruit. The second

year a small share of the fruit was stung, but for the past three years there has been no loss on this account. The experiment gives great promise of success. In the garden, where the hogs are excluded, there are a few peach-trees, but these are badly stung.

All other peach-crops about Duquoin, and at Centralia, had the fruit nearly all ruined by insects.

W. C. Flagg, of Moro, near Alton, has for five years tried the plan of allowing hogs the range of his apple orchard, and finds it very beneficial, by checking the depredations of fruit-boring insects.

An apple-grower in South-East Michigan has for many years back allowed hogs the range of his apple orchard. His apples have been but little infested by the apple-worm, even in years when those of his neighbors were swarming with this insect.

Benjamin Bacon, of Niagara Co., N. Y., has an apple orchard of about ten or twelve acres. Fourteen years ago he turned his hogs into it, and has continued this practice ever since. Before he allowed hogs the range of his orchard, his crop of apples was always a very poor one; since he commenced this system he has raised good crops; ten or twelve of his neighbors have followed his example with equally good results.

Jotham Bradbury, residing near Quincy, Ill., has an old apple orchard, which many years ago used invariably to produce nothing but wormy and gnarly fruit. A few years ago he plowed up this orchard, and seeded it to clover, by way of hog-pasture. As soon as the clover had got a sufficient start, he turned in a gang of hogs, and has allowed them the range of his orchard ever since. Two years after the land was plowed, the apple-trees produced a good crop of fair, smooth fruit, and have continued to bear well ever since.

The benefits of this practice may, in the case of beginners, not be so apparent and decided the first year; but, by faithfully following up for a series of years, there will be found such a direct advantage, as to lead to the adoption of the principle as a general rule. As fast as the wormy fruit falls, it is picked up by the hogs. The larvae of the insect are prevented from going underground and producing a new brood to sting the fruit the next year.

The *American Entomologist* wisely says:

"There are three practical difficulties in the way of carrying out this system of subduing fruit-boring insects by hog-power. 1st. The necessity of having all the orchard land under a separate fence, which, of course, in many cases involves a considerable extra outlay for fencing materials. 2d. The necessity of giving up a practice which is conceded by the most intelligent fruit-growers to be otherwise objectionable; namely, growing other crops, such as small grain, corn, or small fruits, between the rows of trees in bearing fruit orchards. 3d. The necessity of giving up the modern fashionable theory of low-headed trees; for otherwise, if apple and peach-trees are allowed to branch out like a currant-bush from the very root, any hogs that range among them will manifestly be able to help themselves, not only to the wormy windfalls that lie on the ground, but also to the sound growing fruit upon all the lowermost boughs.

"It is important, when hogs are employed for the purpose of picking up fallen fruit, that they should be kept moderately hungry, and not be gorged every day with corn so as to make them too lazy for work."

Intelligent fruit-growers are rapidly being convinced of that practical proverb, "*When fruit-trees occupy the ground, no other crop should.*"

They find that, with the changes of our climate, fruit-culture is not an easy task, but one demanding more skill and intelligence than ever.

Fruit is becoming scarcer and dearer yearly, and there is more demand for it. If fruit is worth any thing, it is worth as much care as any other farm crop. Farmers can afford nowadays to let their orchards lie unused, uncultivated; they can easily let their hogs have free range in them; they can afford to incur the expense of necessary fences to confine the swine from depredation, because the labors of the hog will cause a better return, in the increased yield of fruit, in the freedom from disease both in tree and fruit, and in the fact that they are a complete and permanent preventive against all further insect spoliation.

In the cultivation of plum or apricot trees, the fruit will repay ten times the cost of hogs, or such crops as the ground might otherwise have produced.

We shall yet see the time when the hog-pen in the orchard will be quite a common sight, and declared "*a paying thing.*"

FIGS IN OHIO.

GEN. JAMES T. WORTHINGTON, of Chillicothe, Ohio, has numerous fig-trees growing in his garden, and many of his visitors have been delighted with gifts from his generous abundance. He urges their cultivation strongly in the latitudes of Southern Ohio.

"The fig-tree is hardy, healthy, a quick grower, suits our summer climate admirably, and is easily protected without removal through our severest winters; is a sure bearer and very prolific. It grows from the slip, like a currant-bush, bearing fruit in three or four years from the slip, and I have had trees three years old bear a fair crop the year after they were transplanted.

"After the trees are four or five years old, they produce from the same area, with less labor, a larger and more certain crop, in Southern Ohio, than either potatoes or tomatoes. The large yellow fig begins to ripen about the same time as the earliest summer-apples—this year (1868) on the 14th of July.

"The smaller purple fig begins to ripen about a month later, and has a succession of crops until October.

"I mention these two varieties because they have succeeded best with me. I have this year, for the first time, dried a few of the large yellow figs, (the common fig of commerce,) and find them at least as good as those we import. These can be produced in our climate as cheaply as dried peaches, and much more regularly.

"I like them best fresh from the tree, and often breakfast on them. The demand by the family has been so great, that I have not thought of drying them until this season—when I have a cartload of dried figs from an area of less than four square rods.

"The fig is not likely to be grown in large orchards, but is eminently the fruit of the cottager and villager, and when its merits and adaptability to our climate become generally known, will be as regularly grown for family use, all over the Ohio Valley, as the potato or tomato."

FLOWERING HYACINTH AND TULIP BULBS.

THE amateur cultivator has chiefly to remember, in order to insure success, that his treatment of these Dutch bulbs is not so much intended to form the flowers—the bulb-grower has already done that for him—as to liberate them safely from the succulent folds of the parent bulb. The flower or flower-spike is wrapped up within the bulb, and only wants enticing forth from its winter prison-house in such a manner that it shall not appear *en deshabille*. Now, to do this cleverly, the free formation of roots must be induced, before the growth of the leaves or flower-stem is excited. This is the turning-point. Get plenty of healthy roots, and, under fair conditions, good flower-spikes will follow; fail to get these, and good flower-spikes are barely

possible. A rootless bulb may, indeed, push out its ready-formed flower-stem by feeding on its own substance, even as the felled tree may sometimes clothe itself with branches pushed forth by its self-contained sap; but such developments can be in no sense perfect, and must at length fail from sheer exhaustion. Hence the importance in bulb-growing, (and this forms our text for the present,) whether in earth or water, of inducing in the first instance a profusion of roots, as the means of securing a vigorous development of the flower-spike.

We produce here Mr. Paul's nine rules for the culture of hyacinths in glasses, and add that the same rules will apply equally to pot-culture, substituting earth for water, and pots for glasses. The rules may be slightly abridged as follows:

"In choosing bulbs, look for weight as well as size, and be sure the base of the bulb is sound. Use single kinds only! they are earlier, hardier, and generally preferable. Set the bulb in the glass so that the lower end is almost, but not quite, in contact with the water. Use rain or pond water. Do not change the water, but keep a small lump of charcoal at the bottom of the glass. Keep the glasses filled up from time to time. When the bulb is placed, put the glass in a cool, dark cupboard, or other place where light is excluded. When the roots are freely developed, and the flower-spike is pushing into life, (which will be in about six weeks,) remove by degrees to full light and air. The more light and air given from the time the flowers show color, the shorter will be the leaves and spike, and the brighter the color."

These directions, it will be remembered, suppose the glasses to be kept, during the active development of the plant, in the habitable rooms of a dwelling, where they should be placed in the window, for light, during the day, and be removed from the window, to avoid risk from frost during the night. Whether the apartment be heated or not is immaterial, the only difference will be in the earliness or lateness of the flowers, according as they are or are not stimulated by warmth.—*Gardener's Chronicle*.

TACSONIA BUCHANNI, OR BUCHANAN'S PASSION FLOWER.—The London *Floral World* gives a fine colored plate of this flower, which was introduced from Panama, of which region it is a native, by Isaac Buchanan, Esq., the well-known horticulturist of this city. Shirley Hibberd says of it: "In its native habitat it is extremely plentiful, and in common with other rampant climbing plants of the forests of tropical America, it wreathes the loftiest trees with festoons, clothing them afresh with its abundance of dark green leaves and brilliant scarlet flowers. It is there almost constantly in flower, but under cultivation its seasons of flowering are during May and June, and again during September and October. One of its good properties as a decorative plant is its habit of flowering freely when quite

young, so that it might, no doubt, be grown as a pot specimen in the same way that another section of rampant climbers, the Bougainvilleas, have been successfully managed. The elegant outlines of the leaves, which are distinctly and uniformly lobed, add much to the graceful elegance of the plant, and, in fact, it will present an attractive appearance for that reason alone when trained up a pillar, or allowed to hang in festoons from the roof of a green-house, even when out of flower."

ARNOLD'S HYBRID GRAPES AND RASPBERRIES.

THE committee appointed by the Paris Horticultural Society to examine the merits of Mr. Charles Arnold's hybrid grapes and raspberries, have made a very enthusiastic report, which is given in detail below. The grapes were examined on the vine, and under the very best of conditions:

"We find the most prominent characteristics of them as a class are, first, perfect hardness and vigorous growth; second, early ripening both of the fruit and wood, and, as yet, remarkable freedom from disease, with large, handsome foliage of a very distinct character and not woolly; bunches large on the average, the berries larger than medium, and of a deep black color, obscured in all of them by a rich bloom; skin thin, and in all the numbers we tested free from pulp, and with a full, pleasant, sprightly flavor; our judgment being based not on a cursory examination, but from having known them for the last two seasons.

"The grapes are distinguished by numbers, of which the following is a detailed statement of the numbers on which judgment was passed by us, namely:

"No. 1. Inferior in bunch and berry only to the Black Hamburg. Berry very large, round; color, black, with a fine bloom; flavor, very sprightly; skin, thin; flesh, remarkably solid, but not pulpy; it may be cut like a plum, biting similar to the Hamburg. The bunches are of the largest size, and generally shouldered; ripens with Delaware, vines of which grape were growing near it, and with which we compared the same.

"No. 2. This is undoubtedly one of the best grapes in the whole collection of Mr. Arnold's hybrid grapes; a very promising grape. Bunch large, shouldered, very compact; berry above medium size, black, with a beautiful bloom; flavor excellent, and very sprightly and pleasant; skin thin, seeds small, very little pulp, if any; seems to burst in the mouth, all juice; ripens with Concord, with very vigorous growth, and matures its wood very early—a good market grape.

"No. 5. A beautiful white grape; bunch fully nine inches long; flavor much resembling the White Chasselas, but more sprightly, and which it much resembles in color, having that green,

wax-like appearance ; skin thin ; no pulp ; ripens with Delaware ; a very handsome table grape.

"No. 8. This grape ripens earlier than any kind in this neighborhood ; bunch and berry medium ; color black ; flavor very sweet when perfectly ripe, and rich, full, and aromatic ; free from pulp, all juice ; seeds small ; perfectly hardy, the wood being well matured nearly to the tops in the beginning of September ; a very desirable grape.

"No. 16. This is the highest flavored grape of the whole ; color black, with a fine bloom ; bunch and berry above medium, with a very distinct foreign flavor, and very aromatic, with a most delightful bouquet ; a vigorous grower, with peculiar foliage, hardy, and matures its wood well ; ripens with Concord, and quite free from pulp."

RASPBERRIES.

"The raspberries, as a class, are distinguished for the following qualities : very strong, vigorous growth, great productiveness on ordinary soil, good flavor, and perfect hardiness, standing the winter in a most exposed position without protection ; like the grapes, they are distinguished by numbers, some of which are described below.

"No. 1. White, berry large, good flavor, very strong grower, and productive on poor soil.

"No. 2. Berry red, large, good flavor, enormously productive, ripening two crops in the season, one in July the other in September ; the plants are now, September 26th, literally loaded down with ripe and unripe fruit.

"There are several other varieties of different flavor and shades of color, very promising, and all perfectly hardy, and having stood our winters on an exposed knoll without the slightest protection, many of the varieties being equal in flavor and size to the White Antwerp."

PERIOD OF VALUE OF THE GRAPE AS A MARKET FRUIT.

THE shortness of season, and consequent reduced period of requisite warmth to ripen grapes in most of our Northern States, has led to great exertions toward producing seedlings with a tendency to mature their fruit in as short a time as possible from their period of blooming, and especially before the great heat of summer has begun to wane. But judging from our correspondence with many South-Western grape-growers, there is, with them, a want rather of a late maturing good grape, both for table and wine ; and judging from the following extract, written by J. P. Berckmans for the *Southern Cultivator*, the earliest ripening sorts are not the most profitable when grown at the South for supply of Northern markets :

"In this connection, I would say a word as regards raising grapes for shipping to Northern markets.

"The Hartford Prolific, which is our largest

very early grape, stands carriage remarkably well, but has the defect of dropping the berries from the stems, after being packed some time, and not having a good appearance, do not sell well. As they arrive in New-York by the middle of July and in the height of the season of blackberries, raspberries, Southern peaches, and other fruit, there is then a very limited demand for them. The varieties ripening a couple of weeks later command a better price, and such varieties as Delaware, Diana, and Concord will bring very remunerative prices.

"The risk of decay in shipping grapes is small as compared with peaches ; and when they are packed in well-ventilated crates, the loss by decay is very small."

At the present time, Concords and Delawares come into market about the same time, and the price often runs quite low ; and as neither of them keeps very well, we find by the time Catawbas are ripened, the price improved. And as there is no late sort to be shipped from the South to compete with it, the few locations where that variety ripens well at the North have the price pretty much in their own hands ; and if they could only arrange to hold it, might make it, if they do not now, the most profitable of all the varieties.'

THE GOLDEN QUEEN MELON.

A NEW variety by the above name has appeared in England, which has attracted unusual attention, and, wherever exhibited, has borne off the highest prizes. One grower says : "The plant is a moderately strong grower and a free setter. Fruit medium sized, of a beautiful lemon color, and irregularly netted ; flesh, pale green, very tender, and melting ; skin remarkably thin. The flavor is most exquisite." A second grower planted two plants of the Golden Queen under a sash light, and "gathered twelve of the finest melons he ever wished to see. They were of almost globular shape, beautifully netted, and the flavor *perfection*." We have sent to England for specimens of the seeds to test here.

DURING the miocene period, as proved by Prof. Heer, of Switzerland, there existed such an extensive flora in Spitzbergen, Iceland, and Greenland as leaves little doubt that forests then flourished, even to the very edge of the Polar Sea—containing such trees as are now characteristic of Austrian, American, or Asiatic temperate latitudes.

WILD flowers are very rarely found double ; but the common saxifrage (*Saxifraga Virginensis*) has been found fully double in Danvers, Mass., and on the Wissahickon. It is well worth cultivating, being a very pretty flower, as well as one of the earliest.

ORANGE CULTURE AGAIN.

MR. EDITOR: Please present my thanks to "AL FRESCO" for his timely advance in support of my sorely pressed columns of "facts and figures." I well knew that they would be attacked, and therefore refrained from pushing them further forward, lest they should be utterly overwhelmed.

As "AL FRESCO" predicts, my estimates of the profits of orange culture have been seriously criticised—in fact, seriously doubted, though I well know that they are below rather than above the truth. A shrewd business man said to me, the other day, in New-York: "If these are facts, why don't every body go into orange culture? Why, there is no business here *half* so profitable." He evidently did not credit my facts. I am even suspected of having land to sell in this new Garden of Eden, which I am sorry to say is not a fact, I being the owner of only fifty acres, which I am not disposed to put into the market.

Why don't every body go into orange culture? Some, like my doubting friend, "don't see it;" others, like myself, lack even the small capital required to plant a ten-acre grove; but thousands are going into it, as any one may observe by traveling over the best portions of the State.

If any one who has faith in "AL FRESCO's" figures, or even in my more modest ones, will furnish the necessary cash, I will join him in demonstrating the fact that the highest of these figures fall far below the possible results of ORANGE CULTURE IN FLORIDA.

D. H. JACQUES.

GLEN EVERGREEN, near Jacksonville, Florida.

THE BEST APPLES FOR PROFIT.

T. C. THURLINE, of Newbury, Massachusetts, in a report on fruit read before the Farmers' Club of his locality, says that in raising apples for shipping, it is necessary to look to the vigor and productiveness of the trees, which should be of the best keeping winter varieties; the trees should be adapted to the soil, and of such kinds as do well with ordinary cultivation. The skin of the fruit should be thick, so that the apples will bear some bruising. Color has something to do in the matter, for a handsome red apple will always sell better than a dull green one.

Three fourths of the apples shipped from Massachusetts to Southern and European ports are Baldwins. When well colored, they are highly esteemed in Philadelphia and Baltimore. They are always best when grown upon light loamy or gravelly soil. The "King of Tompkins County" promises to rival the Baldwin. It is a very large red apple. The tree is quite hardy, and is the only one that will outgrow the Baldwin.

Hunt's Russet, a fruit which resembles the Golden Russet of New-York, is much esteemed

in Danvers. It is a medium-sized round apple; color, deep russet; red on one side. The flesh is tender, juicy, and very fine-grained. It brings \$1 per barrel more than most winter apples.

The Rhode Island Greening, Hubbardston Nonesuch, Ladies' Sweeting, and Roxbury Russet are about the most profitable varieties. The latter fruit has been very much damaged by the apple-worm for several years in succession.

BURN THE POTATO VINES.

THERE is a certain kind of potato bug, called the stem-borer, which is very destructive. The injury it does is immense, still it does not attract much attention. The editor of the Philadelphia *Weekly Press*, has found a method for destroying them. "We bought a piece of land adjoining our farm, very favorable to the potato, last spring, on which we proposed to ourselves to raise a model crop. The first week in August the stems were green and growing—at the end of the second week they were dried up. Slitting the stems near the ground, we found them hollow—bored by the *baridius*—which explained their sudden death. An acre measured, on digging, one hundred and seventy-five bushels of salable, twenty-five of what are commonly termed 'seed,' and eleven of small sizes. But for the borer there would have been certainly one third more. The larvæ being in the stems, these were collected and burned. Hundreds of thousands are thus destroyed, saving by so much our future crops.

"But there are some neighbors we can not reach. Their potato haulm will lie in the sun till the insects get out into the ground. We shall have our share of them next year, we suppose. There should be a law to compel insect destruction in such cases."

DON'T KILL HIM.—Many farmers have noticed in their fields a large black beetle, with most brilliant golden dots placed in rows on his back. Dr. Fitch says: "Its eggs produce the *corn-grub killer*. It is a most inveterate foe of the cutworm, grasping the worm in its strong jaws, and in spite of its violent writhing and struggling, securely holding it. When it finds these worms in plenty, it gorges and surfeits itself upon them till it is so glutted and distended as to be hardly able to stir, for it never knows how to let a cutworm alone when it meets him. It is continually hunting these worms, feeding on nothing else if it can obtain them. Both it and the golden-dotted beetle which produces it should never be harmed."

To Commodore Thomas ap Catesby Jones, of Fairfax, Virginia, is given the credit, as early as 1822, of the introduction of the subsoil plow.

HORTICULTURE IN HOSPITALS.

WHAT physician or nurse is there who has failed to note the influence upon a sick person of a bunch of fresh flowers, or a full-foliaged plant, a fern stand, a bunch of ripe grapes, a peach or strawberry out of season?

More potent often for good than all the medicines of the pharmacopœia; frequently giving a fresh impetus to the sinking frame at the turning-point to recovery. A feature so full of material for good, so universally known and appreciated, so infused with sympathetic love and kindliness, as the introduction of flowers, plants, or fruits to the sick-room, has yet no place in the minds or arrangements of those who control the management of our hospitals. Moneys are freely expended in the supplying of water, heaters, the fitting of a laboratory, etc., but not a penny in the erection of structures wherein the convalescent might walk at all times, and from out of which a simple flower or fruit could be gathered and transferred to brighten the eye and cheer, if but for a moment, the heart of the confirmed invalid. Why this is so probable may be answered by saying that, as a rule, those who have the making up of hospital matters have really no knowledge of horticulture, and never themselves having been sick, none of the kindly feelings, thoughts, and sympathies, the love of plants and flowers—"an ingredient to the compound man infused at the creation of the kind"—have ever occupied their thoughts or influenced their actions. Let us hope, however, that the period of progress has arrived, and that by giving here a hint and there an argument, the managers of hospitals will soon come to appreciate the influence of in-door horticulture as connected with the recovery of their patients.

LOOK OUT FOR MICE.—The old adage of "a stitch," etc., is applicable to every orchardist at this season of the year, and he who heeds it in regard to mice is a wise man. A very little care and time taken now to examine and remove all mulching material, grass-turfs, bunches of weeds, or other rubbish that may be around or near to the bodies of apple and pear trees, may perhaps save them from being destroyed. If any are found injured, get a spade and earth up around and over the wound, so as to keep it from drying; for many a slight wound will heal over if kept from the air, when, if left open and exposed, it would crack, absorb moisture, rot, and in time destroy the tree. Don't forget the old adage, again we repeat, and at once look over your orchard trees.

MR. C. W. IDELL, of New-York, an adept in the skillful management of grapes, sent lately to Glasgow, Scotland, several boxes of our native grapes, and they arrived in excellent order. Secret, good packing.

BURYING PLANTS DURING WINTER.

A WRITER in the London *Florist* and *Pomologist* gives an account of his experience in wintering geraniums by burying them in a trench underground, below the reach of frost. The result was quite successful; only two plants out of fifty decayed when dug out the last of April.

The trench should be made in a location where no water can remain at a depth of two feet below the level—that being the depth at which the trench ought to be dug—the plants laid in by the heel in a row, then covered with straight straw, set so as to carry off water, and then covered with earth, according to the climate, to a depth sufficient to keep out frost; finished off in a ridge or roof-shape to carry off water.

Covering the plants over, the straw first, with boards set in a ridge form, and then heaping on earth, we think, would render pressure less liable, and tend to keep a more open circulation in the trench, and thus lessen the liability to damp or decay; but, with a little care in this way, we see no reason why any half-hardy plant may not easily be kept over winter in this manner.

USEFULNESS OF BIRDS.—F. Copeland, West-Dedham, says: "There is a man in my neighborhood who is so mean that he begrudges the robins the few strawberries they take from his bed, and not only kills all he can, but hunts their nests, destroying the eggs and young birds, in fact, will pay boys to do it. I take the ground that any of the feathered tribe do infinitely more good than harm, and the more we kill and drive them away from our farms and gardens, the greater will be the complaint of the destruction to our crops by bugs, grubs, etc. I say, protect the birds, all of them."

HOW TO PRESERVE FRUIT-TREES FROM MICE.—Thousands of young trees are destroyed annually by these little pestiferous scamps. They seldom fail to give me their compliments, and in such a manner, too, as to nettle my temper just a little. I have wrapped my trees with paper and twine, plowed the ground late in autumn, and cleaned the grass carefully away from around the trees; yet those little thieves steal into my orchard and garden, and very coolly girdle my choicest trees. I put my wits to work to devise some sure remedy that would be cheaply and quickly done. Take equal parts of pine-tar and fish-oil, mix together thoroughly by warming, then take a brush and put on the trees close to the ground and twelve or fifteen inches up around the body. It will not injure the trees, and there will be no more trouble with mice. I tried the experiment on fifty trees, last winter, and it worked like a charm. My trees were never more thrifty than during the present season.—*Dr. Nichol's Journal of Chemistry.*

STIRRING SOIL AROUND TREES.

THE opening or lightening the soil around the roots of trees, either in the spring or fall, for the purpose of letting in warmth, and affording a freer medium for the expansion and development of the roots, is of great value in promoting the health and vigor of the tree. All trees, whether fruit or ornamental, young or old, indigenous or exotic, are vastly benefited by this process. In old orchards, the soil about the trunks of the trees, and to a considerable distance from them, in every direction, should be carefully broken, and the upper surface, to the depth of three or four inches, removed in the spring, every four or five years. The eggs of the curculio and other insects are deposited in this stratum, and if not removed or destroyed, will produce insects, the ravages of which the succeeding year will be productive of far greater loss than the expense of removing the soil and replacing it with compost or loam. It is an utterly hopeless undertaking to attempt the cultivation of good fruit, when no measures are resorted to to obviate the fatal ravages of this detestable and insidious foe; and the remedy now suggested is by no means expensive, if we take into consideration the advantages otherwise resulting to the trees from its application.

Any good soil, taken from the open fields or cultivated lands, may be used as a substitute for compost, and a very small quantity will suffice. Even if no fresh matter is applied, I would recommend the removal of the surface soil, and would replace it when convenient. Chip manure, or old dung covered with straw, answers well for this purpose.—*Cor. Germantown Telegraph.*

CURRENTS.—S. D. Redfield, Newton, Benton Co., Iowa, writes: "Last year, the currant-borers attacked my currant bushes and made bad work. This spring, I attacked the borers before they left their holes, and cut up the bushes affected, making a bonfire. I followed them up until about the first of June, and when I discovered any leaves withering I would cut below the hole and burn them. The result is, my bushes are thrifty, and the currants the largest I ever saw, my white-grape measuring one and a half inches, and my cherry two inches in circumference."

GRAFTS should be cut as early in winter as possible. The best time is early in December; but not a day should now be lost when the temperature is suited to the work—say about forty degrees of zero. Last season, we tested the matter practically, cutting grafts in December, January, and February from the same trees, and keeping them alike, completing the work by setting in April one of each cutting on the same tree. We did not lose one of our first cutting; we lost two of our second, and more than two thirds of our last.

NEW VIRGINIA CREEPER, (*Ampelopsis Veitchii*).—This is a miniature foliage variety of our Virginia creeper, which clings to any building with the tenacity of the strongest ivy, and producing in great profusion its dense foliage of a glossy green, shaded with purple, it can not fail to command great attention. It is of exceedingly rapid growth, requires no nailing, and from earliest spring it produces its beautiful purple-tinted leaves so thickly as to form the most perfect coating wherever it is planted, the young shoots being quite purple. The leaves are sometimes divided into three parts, and are sometimes entire, turning red in autumn, similar to the old kind. It was introduced by Messrs. Veitch, and long received first-class certificates and prizes at the great shows in London.—*Hovey's Magazine.*

A GENTLEMAN of Lewiston, Maine, raised from \$6000 to \$8000 worth of produce on eight acres of land, this season. It was done thus: Two large hot-houses were used for forwarding early plants. Four or five acres were planted to cabbage, an acre to early rhubarb, onions, and some other garden vegetables. About forty tons of cabbage were raised for a crop. The earliest part of the crop retailed at five cents per pound, and none of it less than one cent. A large amount of early plants were sold. The statement is correct. It is excellence, not quantity, that the cultivator should seek.

PROPAGATING PANSIES.—*The Cottage Gardener* says that it is scarcely necessary to advert to the easy manner in which the pansy is propagated. Cuttings of the small wiry shoots from the centre of the plant are best, but the outside branches will also grow. All the preparation that is required is a little river sand, spread over a border and slightly combed in, a little more sand being placed on the top. The cuttings should be shaded for a week or two, watering when necessary.

PREPARATION OF GROUND AFTER CULTIVATION.—The following, from an essay by E. A. Riehl, we commend to the notice of all fruit-growers: "Were a beginner to ask my advice on this subject, I would say to him: Prepare your ground well and thoroughly, if you can, and then give good, thorough, and constant cultivation; but if you must be slack in any thing, let it be in the preparation of the land. I would far rather take raw land that has been grubbed and broken in the common manner, and plant my trees without any other preparation, and then give good, thorough cultivation, than to have land prepared in the best and most thorough manner, and then give such cultivation as orchards generally receive."

INSECTS INJURIOUS TO VEGETATION.

At a late session of the Fruit-Growers' Club, New-York, where the above subject was brought up for discussion, the following essay was read by A. S. Fuller:

"We have read and heard so much of late about noxious insects, that I fear many persons believe that the whole insect family are our enemies. Besides this, we have become so accustomed to kill and destroy every living thing for which we could find no use, that many of our best friends perish in the indiscriminate slaughter. We have become civilized, it is true, but far from being enlightened in regard to the rights of those creatures which we have the power of controlling. But it is well for us that our means of destruction are limited; for, were it not so, we would soon make this earth a barren waste, where neither man nor beast could live. I have lately heard it asserted, that, if all insects could be destroyed, then our earth would be a paradise for fruit-growers. It is a pity that those who have such ideas could not find a place where these theories might be practically tested, and they alone take the consequences. I have an abiding faith in the Creator of all things, and fully believe that he knows how to manage the beings he has made, better than they do themselves. We have suffered so much from the depredations of insects, that I fear many persons are ready to declare that *all* are pests, and should be annihilated. But this view of the subject is an erroneous one, for insects, as a whole, are positively necessary and beneficial to the human race. We have destroyed our great forests that sheltered the birds; then we made war upon all of the feathered tribe, killing those that fed upon insects as well as those that lived upon grain and fruits, and in this way we have struck a balance against ourselves. We have not only by our direct efforts destroyed the equilibrium which naturally exists between birds and insects, but in many instances we have killed our insect-friends. Every person should know, if he does not, that insects war among themselves, and one species subsists upon another, and thus each is restrained within proper limits, unless some disturbing cause is introduced.

"It is true that, when any particular kind of fruit or grain is extensively cultivated, those insects which naturally feed upon it will usually multiply in proportion; but in many instances, like those of the Hessian fly, wheat-midge, etc., the natural enemies of these pests also increase; consequently, their ravages are checked, if the whole race is not entirely destroyed. The efforts of man were entirely inadequate to successfully cope with the Hessian fly, but there were a number of very minute species of insects that came to our aid and accomplished the work. It will not always do to wait for some insect-friend to come to our assistance, neither will it do for us to destroy insects indiscriminately,

because we would do more harm than good. And that is why I hold that all the universal remedies for killing insects are not only inefficient but frequently injurious. It is unnecessary for me to pursue this subject any further, for every thinking man must know that insects are, and always have been, of great assistance to man; but we have committed a great wrong, and the increase of injurious insects is the consequence. We must now fight our innumerable enemies with whatever weapons we can command, but the work must be commenced and pursued with caution, or we will do more harm than good. To know how to successfully combat with our insect-foes, we must first learn their habits; for they all have different stages of existence, and some of them are more readily destroyed in one than in another. We must learn what to kill, as well as how to kill, and this requires a slight knowledge of entomology, a science which ought to be, but never has been, taught in our common schools. We have plenty of patent medicines for destroying insects, besides scores of sweetened-water and fire-pursuing doctors, who annually give us universal remedies; but it is rather strange that no eminent naturalist or entomologist indorses these nostrums, and the reason for it is simply because they know too much of insect-life."

"*W. S. Carpenter*—I believe that Linnæus said that insects were necessary to the human race. But it must be acknowledged that some species are becoming altogether too plentiful. I think one would be justified in building fires in his orchard, if by that means he could destroy the apple-moth; but I have little faith in such remedies.

"*H. B. Smith*—When the fruit-trees were comparatively few in number, we had but few insects. Twenty or thirty years ago, apples and pears were abundant, but as they cost little, they were worth but little if you wished to sell them. If the curculio had not come to destroy our plums, they would be so abundant that no one would think of purchasing or paying for gathering. But would any of us be willing to go back to the good old times when people were only supplied with the actual necessities of life, except perhaps in the way of food? I think few of us would like the change.

"*D. B. Bruen*—In my boyhood days we had no trouble with insects, and our fruits were seldom if ever injured. My first recollection of insects injuring trees was soon after what we used to call the locust-year, 1809. The apple-trees were attacked by a species of tent-worm, but I believe that they were different from those infesting our trees at the present time. Since 1809, the apples in New-Jersey seem to have been degenerating.

"*R. G. Pardee*—I believe that there is something wrong about our fruit crops; but there is an art in cultivating them. Some people will succeed, and others will fail. Fruit is not

always worth what it costs to grow it; for, I remember, when I first commenced cultivating strawberries, they cost me about a dollar a quart, but after a while I could produce strawberries for about fifty cents per bushel, simply because I had learned how to cultivate them."

ANNUAL MEETING OF THE OHIO HORTICULTURAL SOCIETY.

THE regular annual meeting of the above-named Society was held December 9th and 10th, 1868, and attended by something over fifty members. A more than usual interest seemed to pervade, and the discussions were unusually spirited and practical.

A very fine show of apples was displayed upon the tables, principally from D. C. Richmond, of Sandusky, who had over seventy varieties; and Joseph Sigler, of McConnellsville, about forty—the most of them extremely handsome specimens. A few samples of pears were present, some persimmons from Mr. Mears, and a fine show of potatoes from Mr. Leo Weltz. The only new fruit promising value was an apple from Mr. George W. Campbell, of Delaware, Ohio. Its general appearance was much like Rambo, but it is claimed to be a longer keeper.

The President, Dr. J. A. Warder, read his annual address, after which the *ad interim* reports were heard, the subject matter of which has all been printed. Mr. Clark, of Lancaster, and Mr. Storrs, of Painesville, read essays on "Orcharding," combining in them many good but not specially new features. In Mr. Storrs's essay, he advised the use of coal-tar water, by means of syringing, to prevent the ravages of the curculio. Mr. Storrs's estimate of the apple crop of Ohio was made from a slight amount of statistics gathered in his own (Lake) county. When valuing apples at two dollars a barrel, he foots up over \$300,000 for that county alone; and that being a county of small territory—perhaps the smallest in the State—if we give a like amount to each other county, the apple crop of Ohio this year will foot in value over \$8,000,000.

A committee was appointed to draft a memorial to Congress, and report at the next annual meeting, for a law giving the originator or discoverer of a new fruit or plant the exclusive value thereof.

A committee was also appointed to take in charge the gathering of local knowledge of societies in the State, by proffering them monthly subjects for discussion, receiving the reports of the same from their secretaries, and then having the same collected for publication. Mr. F. R. Elliott was made the secretary of this committee, and from it we look for valuable items of practical horticulture.

The discussions of the Society were upon the rural decoration of home grounds, in which the use of some varieties of evergreens was discussed, and the dwarf-growing pines and spruces

urged upon the public, in place of the present free and extensive use of the large and strong-growing sorts. At the close, Mr. Elliott was requested to prepare a paper on the use and positions of trees and shrubs for rural home decoration, to be presented at the next annual meeting.

The discussion on apples designated nothing as advised to be grown; while on pears, the Bartlett, Beurre d'Anjou, Beurre Clairgeau, Duchess, Louise Bonne de Jersey, and Windsor were advocated, by a majority, as varieties to grow for profitable marketing.

The peach discussion was mainly by members from the southern part of the State, and the Oldmixon Free, Crawford's Late, and Smock obtained most favor for market purposes; next to them, Hale's Early, Troth's Early, Crawford's Early, Stump the World, Heath Free and Cling, Ward's Late, and Freeman's Late.

It was decidedly stated that the most money in peach-growing is from the late-ripening varieties; and it was also distinctly stated that the same class and quality of peaches, gathered and shipped at the same time, would bring double the price in market, when packed in *new* boxes, over that in old packages. A poor commentary on the judgment of fruit consumers. Mr. Kemp stated that in eight years he had realized six good crops.

The discussion on strawberries gave favorable statements of Nicanor and Charles Downing; conflicting statements of Jucunda, Napoleon III., and De Nicaire; while the Boudinot, a new sort from Licking county, Ohio, received praise from its originator and others interested, claiming it equally prolific and hardy as the Wilson, and otherwise every way superior.

Grapes, as usual, had their advocates and opponents, based on the success had with them in varied soils and locations. Nothing specially new was, however, brought out, and when the call—for selection of these sorts only—came, all concurred in Concord as first; then the votes ranged among Delaware, Catawba, Ives, and Hartford Prolific.

The potato discussion gave Goodrich Early a good character for productiveness, but not for table use. Early Rose had been successful with all, and the Peachblow was a potato not yet to be relinquished for the main crop, especially in clay lands.

MAMMOTH CLUSTER RASPBERRY.

MR. EDITOR: We notice your article in last HORTICULTURIST on "Black Raspberries," calling in question the claims of our Mammoth Cluster as a distinct variety. At the instance of Mr. Myers, whose article you reproduced from the *Prairie Farmer*, we visited Collinsville, Illinois, and found but little similarity between the Miami or McCormick and our Mammoth Cluster, either in habit of bush or yield of

fruit. That variety, on the rich bottom-lands where Mr. Combs is growing it, has a long, slim, willowy cane, and produces, as Mr. R. Combs told us, about thirty-five bushels of fruit per acre. Our Mammoth Cluster has a large and sturdy cane, forming a round, symmetrical bush on our sandy and gravelly soil, and produces there two hundred bushels and over of fruit per acre. Now, the difference in soil and climate is decidedly in favor of Collinsville, yet the results are widely in favor of our Mammoth Cluster, and we wish to call attention to this one thing—that, out of the many visitors who saw it here in fruit the past season, many of whom were our most noted and experienced horticulturists, not one of them claimed to have ever seen it before, and *all* acknowledged it superior in productiveness and size to any variety they had ever seen; though, let it be remembered, that *one hundred plants of the McCormick Miami were sent East ten years ago* or more, and by that celebrated fruit-man Dr. Warder, who would be very likely to appreciate all its good qualities. And now, we ask, if it had been similar to our Mammoth Cluster, or worthy of the high commendations it has received, would it not have been *heard from* long before this time? And again, who are the best judges, in this instance, the many able and disinterested fruit-growers who *saw our fruit*, or those parties living hundreds of miles from here, and who were *never on our grounds* or saw the fruit?

Truly, PURDY AND JOHNSTON.

...

MR. EDITOR: In the last number of THE HORTICULTURIST I noticed an article on the "Black Cap Raspberry," in which it is intimated that the Mammoth Cluster and the McCormick may prove identical.

For the past twelve or fifteen years, business has called me in the vicinity of Cincinnati, St. Louis, and Chicago. I have visited a large number of fruit-men in all seasons of the year; have seen their black-raspberry plantations in full bearing, and have seen no less than three distinct raspberries called the Miami, all of them having valuable merits. Among the rest I have seen the McCormick in fruiting at Centralia, Illinois (the party stating he received them from the Combes, at Collinsville.) It was a large *brown* berry; stalks making a long spindling growth; but it appeared to me to be a shy bearer, the party stating to me that his Doolittle yielded him much the larger crop. The past summer, business called me to Geneva and Canandaigua. While at Geneva, I saw an account of this Mammoth Cluster, and also a party who had seen it the day before, on Purdy and Johnston's Nurseries, at Palmyra. I took the cars and stage, and in a few hours found myself in the company of Mr. Purdy, (who, by the way, is a perfect encyclopedia, or walking dictionary, on small fruits.) I informed him

what the object of my visit was, and stated that I had seen all the different black raspberries at the West. His reply was, "I am glad of it, as it is intimated by some that it may be one of the varieties known as Miami, and we wish to know the opinion of others. As for ourselves, we have lived at the West for twelve or fifteen years, and have seen every raspberry known there, but never saw a variety that would compare with this we have."

But how can I express my astonishment at the sight I saw! The bush and stalk were the largest and most stocky I had ever seen, *entirely distinct* from the one I had seen at Centralia; while the sight of fruit exceeded any thing I ever saw. I am confident that they had double the amount of fruit, and are twice as productive as any sort I have ever seen. Not only are they larger and more productive than the McCormick, but the flavor and color are in no way similar or alike. I do not believe the McCormick could be made to yield over fifty or sixty bushels to the acre, while I am confident that the Mammoth Cluster can be made to yield two hundred bushels. I think the effect of Mr. Mearns's article will be to give many persons a plausible excuse to sell the McCormick for the Mammoth Cluster. If so, I feel confident the public will get badly cheated. My short visit with Mr. Purdy (Mr. Johnston not being at home) satisfied me that they would not knowingly deceive the public, or palm off an old sort for a new at such high rates.

Truly yours,

WILLIAM UNDERHILL.

SYRACUSE, N. Y., Dec. 18, 1868.

...

VINEGAR FROM APPLES.—The superior excellence of vinegar made from apples is well known. Dr. Claggett, of St. Louis, stated, at the last meeting of the American Pomological Society, that he uses the imperfect fruit too defective for market, and that from his small orchard he thus makes two thousand gallons of vinegar. Mr. Nelson, of Fort Wayne, said, at the same meeting, that, after considerable experience, he finds that gathering the imperfect fruit as fast as it falls, or making vinegar, diminishes the ravages of the apple-worm annually. He finds it profitable.

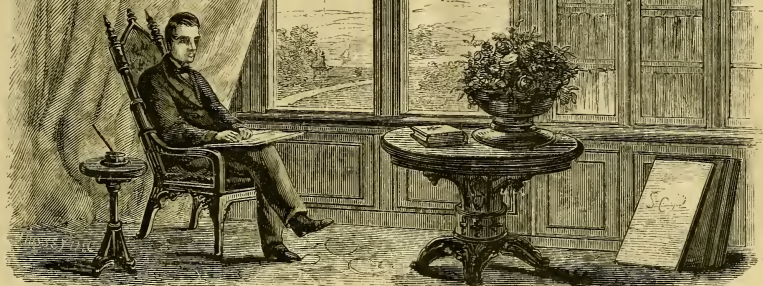
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At the Colorado fair, 4 cabbages weighed an average of 45 lbs. each, 12 turnips and 50 potatoes made each a barrel, and there were squashes 5½ feet in circumference.

...

A. C. LARCOMB, of Portage, O., has killed, from less than half an acre of potatoes, four bushels of potato-bugs by actual measurement.

EDITORIAL EASY CHAIR



A PLEASANT SURPRISE.

To all the friends of *THE HORTICULTURIST*, a happy New-Year!

For more than twenty years *THE HORTICULTURIST* has been a welcome visitor into the homes and affections of thousands of true friends, who have never varied in their appreciation and support.

Its history is fraught with delicious memories of lovely flowers and choicest fruits, and bears in its onward course recollections of the highest pleasure of its early originators and conductors.

With what a peculiar pleasure does the possessor of an entire set of *THE HORTICULTURIST* take the volumes, one by one, carefully down from the wide shelves of his best book-case, and look over their contents!

Here are the evidences of the graceful pen of Downing, there is the pleasant hand of John Jay Smith; here is the able work of Barry, and there the name of Mead, and again the practical etchings of the Woodwards.

How rich the pages are with horticultural lore! How delightful are the associations naturally suggested by thought of all the active contributors it has so prominently possessed! The illustrations, too, come thickly thronging along. Now it is a shrub, then a cottage; now it is a fruit, then of some suburban villa, and again of some new and rare plant, and all of neat and tasteful execution; while up and down its many thousand pages appear, in living characters, all the evidences of a progressive, elevating taste for the accomplishment of practical results in American horticulture.

During all its history it has never been connected with any mercenary enterprise; its fair name has never been soiled by any unworthy incident; its managers have acted with high personal dignity; it has never stooped to any meanness of low character; never has aimed to

build itself up at the expense of others; never resorted to any doubtful policy; never lent its indorsement to any meritless object.

This year brings a new proprietor, who values highly this long career of honor and usefulness, and will, by every honorable means, continue to perpetuate its good name and push it on with greater energy and enterprise.

The future management of this long-loved favorite of the lovers of country life and horticulture will be characterized by special efforts to increase its circulation, to grace its pages with evidences of literary taste and ability, to adorn it with numerous and appropriate illustrations, to fill its columns with choice practical literature which shall interest and instruct, and to do all that is possible to make it more able and successful than ever.

A pleasant social vein will pervade the entire character of the magazine, and the relations of the editor with his readers and contributors will be of the most cheerful nature. I desire all its old friends and contributors to continue firm and true, and favor it frequently not only with their patronage, but articles of sterling practical value. Valuable improvements will be constantly made, and no pains will be spared to render *THE HORTICULTURIST* worthy the most active help and sympathies of its readers. I am not accustomed to indulge in many promises. My mode of practice is by "*pleasant surprises*," to "*grow in grace*," to be "*known by my fruits*," and to continue a steady onward course of improvement.

I refer all to the Prospectus of *THE HORTICULTURIST* on an adjoining page, and ask their careful attention.

The office of *THE HORTICULTURIST* still remains the same. And Mr. F. W. Woodward still remains connected with the publishing and editorial departments. I am respectfully,

HENRY T. WILLIAMS,
Editor and Proprietor.

SPECIAL NOTICE TO HORTICULTURAL SOCIETIES.

THE editor of THE HORTICULTURIST will feel gratified to have copies of horticultural discussions sent to him, as soon as possible, after publication in local newspapers. These associations always have good results in the dissemination of items of valuable experience, and we desire to obtain them to give to the public at large whatever is useful.

HINTS TO CONTRIBUTORS.

1. AIM to give *facts* and *ideas*. Do not weary the patience by an abundance of words.

2. Be simple and practical in choice and treatment of subjects.

3. *Write often*, and keep up a progressive spirit and interest in all subjects of horticulture and rural improvement.

4. Make all communications short, not exceeding four foolscap pages long. If possible, make but two pages. Remember that, however interesting the subject or the article may be, space is valuable, and the success of a journal depends upon its *variety* of reading as on subjects of abstract merit.

5. No disputation by contributors can be permitted, and the editor reserves the right to prune articles which contain objectionable matter.

We desire our readers to correspond frequently, and communicate any items of interest, subjects of practical importance, or matter suggested by personal experience.

There is a large number of practical men who consider themselves entirely incompetent to write a fine newspaper or magazine article, yet possess good and valuable horticultural knowledge.

We desire them to address us freely, and in an easy and natural letter tell of what they have seen or done, that would be likely to prove of benefit to others. We wish to have our Editorial Basket filled to overflowing constantly with these short and sweet practical letters from the horticulturists and fruit-growers of the country. To others who have the right literary ability, we extend a cordial invitation to contribute as often as possible, and assist us in building up and maintaining, far more successfully than ever, the worthy reputation of THE HORTICULTURIST as the best journal of rural life, literature, and horticulture in America.

CHILDREN AS A HELP TO ENJOYMENT OF COUNTRY LIFE.

A LADY overflowing with love for flowers and fruits writes a plea for the children.

"We talk of adorning our houses and our grounds, but never mention those dear creatures without whom no home is complete. One may spread the velvet lawn around the house, but it looks naked and cold; may set up gleaming marble carved in the human form, but never

can chisel give it life; and the pretty nooks among the greenery are ever unfinished; the vine-clad arbors have empty seats; smooth gravel-walks show no little footprints, while the house, that should be a home but is not, is always in order—painful order. Not a book that you can take up readily, for they are all behind glass, bought for show and not for use. When all is carried out, as far as the architect and landscape gardener can go, and the precise woman of the house has placed each little statuette on its appropriate bracket; straightened each chair and curtain; hung all blank spaces with furniture—with nice regard to size, and no regard to light or shade; then master and mistress survey their house and grounds, with an inward satisfaction at having displayed their money at so nice an advantage, but take their seats at table, looking in each other's eyes, each asking with silent lips, Why this chill? why this unfinished look in every thing? If one were to tell them it is little children needed to complete this picture, how their eyes would open.

"Just put a *troupe* of little, rosy-cheeked, fat-tisted ones in such a house, let them pull a table-spread away, leave doors open, throw picture-books on the carpets, and pull flowers to pieces on the door-steps, then there would be some comfort for the wife, for she would have something to occupy her mind and hands too. Oh! those women know not what life is, with no silvery voice ringing through the house; no little feet pattering on the stair; no little one to hug and kiss; no happiness; no home—I almost say, no heaven."

CURIOSITIES OF RURAL LITERATURE.

WEATHER POETRY.

SHERIDAN made a rhyming calendar of the weather for each month in the year; it is a curiosity seldom seen:

"January snowy,	July moppy,
February flowy,	August croppy,
March blowy,	September poppy,
April showery,	October breezy,
May flowery,	November wheezy,
June bowery,	December freezy."

This weather proverb is quite familiar:

"A rainbow in the morning is the shepherd's warning;
A rainbow at night is the shepherd's delight."

The reasons for this proverb are perfectly natural. A rainbow can only occur when the clouds containing the rain are opposite the sun. If a rainbow is seen in the morning, it will be found in the west; and as heavy rains are most frequently accompanied with westerly winds, it indicates that bad weather is on the way *toward* us. But if the rainbow is in the evening, it will be toward the east, and proves that the rain in these clouds is passing *from* us.

The following signs of the weather were

given by Dr. Jenner, in 1810, to a lady, in reply to her inquiry whether it would rain on the morrow :

"The hollow winds begin to blow,
The clouds look black, the glass is low ;
The soot falls down, the spaniels sleep,
And spiders from their cobwebs creep ;
Last night the sun went pale to bed,
The moon in halos hid her head ;
The boding shepherd heaves a sigh,
For see, a rainbow spans the sky ;
The walls are damp, the ditches smell,
Closed is the pink-eyed pimpernel ;
The squalid toads at dusk were seen
Slowly crawling o'er the green ;
Loud quack the ducks, the peacocks cry,
The distant hills are looking nigh ;
Hark ! how the chairs and tables crack !
Old Betty's joints are on the rack ;
And see yon rooks, how odd their flight,
They imitate the gliding kite,
Or seem precipitate to fall
As if they feel the piercing ball ;
How restless are the snorting swine !
The busy flies disturb the kine ;
Low o'er the grass the swallow wings ;
The cricket, too, how loud she sings !
Puss on the hearth, with velvet paws,
Sits wiping o'er her whiskered jaws—
'Twill surely rain, I see with sorrow ;
Our jaunt must be put off to-morrow."

In the Netherlands they have this proverb :

"Een kring om de maan
Die kan vergaan ;
Warr een kring om dogon
Geeft water in de ton."

("A ring round the moon
May pass away soon ;
But a ring round the sun
Gives water in the tun.")

As a general rule, a circle around the moon indicates rain and wind. If seen with a north or north-east wind, we may expect stormy weather ; or, if in any other quarter, rain is sure to come, if the circle especially is large. But if the moon rises immediately after sunset, and a circle soon formed around it, the old weather-wise prophets foreboded nothing ill. Hence the words of the proverb, "*May pass away soon.*"

An old astrologer endeavored to predict the entire weather of the year, from St. Paul's day, January 25th, saying :

"If St. Paul be fair and clear,
It promises then a happy year ;
But if it chance to snow or rain,
Then will be dear all sorts of grain ;
Or if the wind do blow aloft,
Great stirrs will vex the world full oft ;
And if dark clouds do muff the sky,
Then fowl and cattle oft will die."

In the British Museum there is found an old manuscript, running thus :

"If Christmas-day on Thursday be,
A windy winter you shall see ;
Windy weather in each week,
And hard tempests, strong and thick ;
The summer shall be good and dry,
Corn and beasts shall multiply ;

That year is good for lands to till ;
Kings and princes shall die by skill ;
If a child born that day shall be,
It shall happen right well for thee ;
Of deeds he shall be good and stable,
Wise of speech, and reasonable.
Whoso that day goes thieving about,
He shall be punished, without doubt ;
And if sickness that day betide,
It shall quickly from thee glide."

AMATEUR FARMERS.

DONALD G. MITCHELL, in *Hints about Farming*, suggests that the orators at agricultural fairs are disposed to give too much of rose-color to their statements, and to elevate farming into the position of one of the exact sciences. These speakers only view the poetic side of farm life, as they put stramonium in barren fields where it never grew, and make the female birds chant and carol, which they never do. Mr. Mitchell, popularly known as "Ik Marvel," thus comments on amateur farmers :

"The misfortune about this farm rhetoric is the notable fact, that it is most persistently and persuasively indulged in by those who know very little about the practical drift and intent of farm life. They do not have the kicking cows to milk, or the corn to replant after the crows, or the bar-posts to reset after an Irish teamster. They never reach to the core of the matter.

"Oaks are fine things ; and rivers are fine things ; and so are sunsets and morning-glories, and new-mown hay, and fresh curds, and spotted calves ; but, after all, a farm and farming do not absorb all the romance of life or all its stateliest heroics. There is width and beauty and independence, indeed ; but there is also sweat and anxiety, and horny hands, and a great deal of hay-dust in the hair.

"For a man who is thoroughly in earnest, farming offers a grand field for effort ; but the man who is only half in earnest, who thinks that costly barns, imported stock, and a nicely-rolled lawn are the great objects of attainment, may accomplish pretty results, but they will be small ones. To the *dilettante* farmer, who has a smattering of science, whose head is filled with nostrums, who thinks his salts will do it all, who doses his crops, now to feebleness, and now to an unnatural exuberance, who dawdles over his fermentations while his neighbor's oxen are breaking into his rye-field, who has no managing capacity, no breadth of vision, who sends two men to accomplish the work of one, let such a man give up all hope of making farming a lucrative pursuit. But if a man, as we said, be thoroughly in earnest, if he have the sagacity to see all over his farm—to systemize his labor, to carry out his plans punctually and thoroughly ; if he is not above economics, nor heedless of the teachings of science, nor unob-servant of progress elsewhere, nor neglectful

of such opportunities as were the Yale Agricultural Lectures—let him work, for he will have his reward. But even such a one will never come to his ‘four-in-hand,’ except they be colts of his own raising; or to private concerts in his own grounds, except what the birds make.”

LABOR IS HONOR.

LABOR is honor! God's Spirit hath spoken:

This is the song that his universe sings;
Through the vast hills of creation unbroken,
Loudly and clearly the glad echo rings;
Up from the hills and the green valleys stealing,
Seeking the light of the bright star above,
Rises the song to the blue heavens pealing.
“Labor is honor, and labor is love.”

All the great deeds that are grandest in story,
Living through centuries treasured and bright;
All the great lives that are dearest to glory,
Filling the world with flashes of light;
Words from whose utterances ages are dated,
Thoughts that have held the whole world in control,
Names on whose echoes the proudest have waited,
Are but the offspring of labor and toil.

Not to the eye that glanceth there lightly
Doth the bright look of the heavens unfold;
But to the spirit that turneth there rightly
Are all its wonders and mysteries told;
And at each step to the soul upward springing
Cometh new radiance, new light from above,
While in the heart is an angel-voice singing,
“Labor is honor, and labor is love.”

Not on her brow doth the earth bear all brightness:
Deep in her breast do the rich diamonds shine;
Down in the wave is the pearl's soft whiteness,
Hiding the gold in the dust of the mine.
Beauty and power, and riches and pleasure,
Safe in her bosom lie hidden to-day:
Toil is the key that will open her treasures,
And at each touch she will give them away.

Light to the mind that in darkness was clouded,
Strength to the spirit that weakness had touched,
Joy to the soul that in sorrow was shrouded,
Life to the heart when its life-spring was hushed,
Truth as their foothold who seek it sincerely,
Skill to the hand when it toileth to live,
Eyes that can look up to heaven's light clearly—
These are the honors that labor can give!

BRILLIANCY OF A TROPICAL EVENING.

THE romance which lingers around tropical life does not confine itself to the almost inexhaustible treasures of beautiful trees, plants, flowers, and forests; but rather finds its most lovely culmination in the bewitching splendor of its moonlight nights. A traveler in the West-Indies expresses his rapture in glowing language as follows: “Would that I were able, without exciting extravagant and ill-defined expectations, to give the reader a sufficiently graphic idea of the soft radiance and splendor of a fine night in the tropics! A bright moonlight night is delightful in any part of the globe. Many

have been the moonlight and starlight nights I have witnessed and enjoyed on the hills, amidst the glens, and, more than all, among or on the lakes of our own unrivaled Northern land. But a moonlight night within the tropics excels in brilliance and in beauty a moonlight in any other region of the earth. There is a softness as well as a splendor about it which is peculiar to itself—a mellow brilliancy which almost transcends description. On land, the brilliancy of the moon and the stars is such that every leaf, and tree, and flower seems bathed in floods of liquid light—a light so clear, and, at the same time, so mellow and so soft, that the outlines of the hills and other objects appear to be defined almost with greater distinctness than when they are viewed by day. At sea, particularly with such hill-crowned islands as St. Lucia, Martinique, Dominica, Montserrat, or St. Kitts, etc., in near view, the scene is still more lovely. The vast unfathomable sea, fit symbol of eternity, lying around you, either sunk in deep repose or upheaving its vexed waves—in the one case a mirror for a thousand starry worlds, in the other a sparkling ocean of fire—the summits of the land illuminated and surrounded by a kind of halo; the scene has with it all the beauty of a northern moonlight, and many beauties besides peculiar to itself. A single fact will best illustrate the clearness of the atmosphere and the greater prominence and brilliancy of the stars consequent thereupon. Oft when in Antigua, and also in the other islands of the West-Indian seas, have I observed and called attention to the fact that in certain positions of the planet Venus she was seen under a crescent form, like a small moon, and emitting or transmitting, in the absence of the moon herself, a quantity of light which made her by no means an insufficient substitute.”

JENNY LIND AND THE BIRDS.

A VERY pretty little story is told of Jenny Lind, as she was riding, one day, in a stage in the country: “A bird of brilliant plumage perched on a tree near, as they drove slowly along, and trilled out such a complication of sweet notes as perfectly astonished her. The coach stopped, and, reaching out, she gave one of her finest roudades. The beautiful creature arched his head on one side, and listened deferentially; then, as if determined to excel his famous rival, raised his graceful throat, and sang a song of rippling melody that made Jenny rapturously clap her hands in ecstasy, and quickly, as though she were before a severely critical audience in Castle Garden, delivered some Tyrolean mountain strains that set the echoes flying. Whereupon little birdie took it up, and sang and trilled and sang, till Jenny, in happy delight, acknowledged that the pretty woodland warbler decidedly outcaroled the great Swedish Nightingale.”

THE MEADOW PATH.

It leads, in many a tangled curve,
Through reedy fen and yielding mosses,
To where, through rushes rank and green,
On stepping-stones the brook it crosses ;
It circles in and circles out,

By ferny fell and wooded passes,
And hides away, in sudden sport,
Beneath the lush and tangled grasses.

It skirts the upland's shallow pool
With many a graceful scoop and hollow,
And runs away, on bare brown feet,
The faster as you faster follow !
It sweeps along the fallow ridge,
In countless eddying curves and narrows,
And, swooping in and swooping out,
It frights the wee brown-breasted sparrows.

It flits away, with dainty grace,
Through spongy marsh and sandy shallows,
And dons the cardinal's gay hood,
To brighten up its barren fallows :
It braids the king-cup's golden bells,
Like stars, amid its floating tresses,
And, circling in and circling out,
It dies at last among its cresses.

FARMERS' WIVES.

GEORGE W. CURTIS draws a sad picture of the lot of the farmer's wife : " I think of many and many a sad-eyed woman I have known in solitary country homes, who seemed never to have smiled, who struggled with hard hands through melting heat and pinching cold, to hold back poverty and want, that hovered like wolves about an ever-increasing flock of children. How it was scour in the morning, and scrub at night, and scold all day long ! How care blurred the window like a cloud, hiding the lovely landscape ! How anxiety snarled at her heels, dogging her like a cur ! How little she knew or cared that bobolinks, drunk with blind idleness, tumbled and sang in the meadows below, that the earth was telling the time of the year, with flowers in the wood above." Without doubt there is much groundwork for his picture ; still, we think, there is many a ray of hope and sunshine of cheerfulness which illumine now and then the hearts and homes of even the most dejected and weary-worn. In American life, the poorest of the poor, even of the laboring class, may thank Heaven for the land they live in, for their liberties, and, better than all, better than any foreign land can or does give, for *sympathy* !

CROWS.

WHO would suppose that there was much affection in a crow, worthy of recital ? And yet James Russell Lowell writes pleasantly a few notes of observation : " For a few years I had crows, but their nests are an irresistible bait for boys, and their settlement was broken up. They grew so wonted as to throw off a great part of

their shyness, and to tolerate my near approach. One very hot day, I stood for some time within twenty feet of a mother and three children, who sat on an elm bough over my head, gasping in the sultry air, and holding their wings half spread for coolness. All birds during the pairing season become more or less sentimental, and murmur soft nothings in a tone very unlike the grinding-organ repetition and loudness of their habitual song. The crow is very comical as a lover, and to hear him trying to soften his croak to the proper St. Preux standard has something the effect of a Mississippi boatman quoting Tennyson. Yet there are few things to my ear more melodious than his caw, of a clear winter morning, as it drops to you filtered through five hundred fathoms of crisp blue air."

THE LESSON OF THE GARDEN.

A GARDEN is a beautiful book, writ by the finger of God ; every flower and every leaf is a letter. You have only to read them—and he is a dunce who can not do that—and join them, and then go on reading and reading, and you will find yourself carried away from the earth to the skies by the beautiful story you are going through. You do not know what beautiful thoughts—for they are nothing short—grow out of the ground, and seem to talk to man. And then there are some flowers that always seem to me like over-dutiful children ; tend them ever so little, and they come up and flourish, and show, as I may say, their bright and happy faces toward you.—*Douglas Ferrolld.*

THE WONDERS OF A SEED.

ABOUT a hundred and fifty years ago, the celebrated Linnæus, who has been called the " father of botany," reckoned 8000 different kinds of plants, and he thought that the whole number existing could not exceed 10,000. But a hundred years after him, M. Candolle, of Geneva, described about 40,000 kinds of plants, and he supposed it possible the number might even amount to 100,000.

Has it ever occurred to any ordinary mind whether there is the slightest possible doubt that any one of these 100,000 seeds of different kinds of plants has ever failed to reproduce its kind. Have they ever deceived us ? Has a seed of wheat ever yielded barley, or the seed of a poppy grown up into a sunflower ? Has a sycamore-tree ever sprung from an acorn, or a beech-tree from a chestnut ? A little bird may carry away the small seed of the sycamore in its beak to feed its nestlings, and on the way may drop it on the ground. The tiny seed may spring up where it fell unnoticed, and sixty years after it may become a magnificent tree, under which the flocks of the valleys and their shepherds may rest in the shade.

Is there upon the earth a machine, is there a

palace, is there even a city, which contains so much that is wonderful as is inclosed in a single little seed—one grain of corn, one of wheat, one little brown apple-seed, one small seed of a tree, picked up by a sparrow for her little ones, the smallest of a poppy or a bluebell, or even one of the seeds that are so small that they float about in the air, invisible to our eyes! Ah! there is a world of marvel and brilliant beauties hidden in each of these tiny seeds.

MEETING OF THE AMERICAN POMOLOGICAL SOCIETY'S COMMITTEES.—The secretary of the American Pomological Society informs us that a meeting of the stated officers and fruit committees will be held in this city (New-York) on the 10th of February, 1869, for the purpose of a careful revision of the fruit catalogue. This will be at considerable expense of time and money on the part of the officers; but it will greatly facilitate the labors of the society's regular meeting next autumn, and should be favorably appreciated and assisted by every fruit-grower. Contributions of knowledge respecting the success or failure of varieties are invited from every horticulturist; and those who have specimens of new fruits are particularly invited to send samples. Address P. Barry, Esq., Chairman of Catalogue Revision, Rochester, N. Y.; or, F. R. Elliott, Secretary of American Pomological Society, Cleveland, Ohio.

USES OF SEDUM.—We have seen capital use made of the different sedums during the past summer. A gentleman had an out-door cellar so constructed as to leave not a little roof far above the surrounding ground, and that so steep that he failed to make grass turf grow well upon it. We suggested the covering it with a quantity of plants of the various varieties of sedum. They took finely, and he has had a pretty flower-bed during a great part of the season. We had often used the sedums in dry and open, exposed positions of rockwork, and on points where there was but little soil; but this is the first time we have seen it when it served an economical as well as ornamental purpose.

SOWING JAPAN LILY-SEED.—Form a perfect drainage to the pots, then fill to within half or three fourths of an inch of the brim with light loam and sandy peat, about half and half, well mixed. Make the surface smooth. Scatter the seeds, and cover them about as deep with soil as the diameter of the seeds. Give water to moisten well and thoroughly; then place the pot in a temperature of from 65° to 70°, and where it will receive only a dim light. As soon as the plants show, increase the light, but keep the temperature until the weather out-doors will correspond, when the pot may be plunged in the open ground; and by fall they will be

found with little bulbs, suited for repotting singly or planting out in open ground.

THE Proprietor apologizes for the delay in issuing the January number of *THE HORTICULTURIST*, because of the necessary time in completing the engravings, especially the beautiful cover illustration, and required for careful printing. Hereafter all numbers will be issued promptly on the first of each month. Contributors will please hand in their favors before the 10th, and advertisers before the 15th—previous to issue.

BOOK NOTICES.

GARDENING FOR THE SOUTH. By William N. White. New-York: Orange Judd & Co.

The peculiarities of Southern soil, climate, modes of culture, and varieties of fruit, being so different from those of the Northern States, seem to have demanded a work which should be especially adapted to the necessities of Southern cultivation. The majority of the matter furnished in this work seems to be exceedingly suitable, and full of practical information. The directions for planting are all that could be wished for. We think there is yet room to make out a more complete and valuable list of varieties for cultivation than is here given. We observe that many new varieties of fruits and vegetables are left out; while many old ones, long ago forgotten, are still retained. Perhaps the progress of experimental horticulture in the South may not have been such as to warrant the preparation of an authoritative list. But before a list is submitted to the public, it should have the evidences of very thorough care and selection. We observe many of the engravings are transferred from other books. They are a help, no doubt, but generally good taste does not allow such a practice, in books particularly, although pardonable in newspapers and other journals.

THE HUNTER AND TRAPPER. By Halsey Thrasher. New-York: Orange Judd & Co.

An exceedingly plain, practical, and sensible book. The author seems to have been actuated more by the desire to give good, sound information and advice than to strain after literary polish and effect. His directions for trapping bears, wolves, foxes, beavers, and other fur animals, together with descriptions of the best methods for hunting deer, fishing for trout, hunting bees, and hints about gins and traps and dressing furs, are characterized with a directness of purpose and simplicity of explanation that will not fail to make this little book handy and popular to all lovers of such rural sport.



Practical Hints to Fruit-Growers.

No. II.—Marketing Grapes.

THE grape should be cut when perfectly dry, and always handled by the stem. They should be laid in picking-boxes, and not in baskets ; the size of these boxes can be varied to suit the convenience of the pickers. The boxes are preferred on account of their being more firm than baskets.

It is seldom the fruit is cool enough to pack immediately, consequently it should be placed in a dry, cool room for at least twenty-four hours. This will cause the stem to wilt, and make it more pliable for packing.

In the Southern States I would recommend a longer time for the cooling process, as there is a greater degree of risk in transportation from those States during the extreme heat that frequently prevails when they send their fruit to market.

There is no fruit grown on which the owners lose so much money as they do in sending the grape to market in objectionable packages. A few years since, all the grapes were sent to our market in boxes containing from twenty-five to fifty pounds. Then it was the custom for retailers to weigh all they sold, and by this process their loss was considerable in handling. To avoid this loss they demanded a smaller package, which could be sold without breaking bulk, and the ten-pound box was introduced, which suited them for a time ; but instead of being satisfied with this box, they again demanded a smaller one, and the five-pound box was invented, which gave still better satisfaction than the ten-pound.

The dealers finding the box system was better as it decreased in size, wished to do away, *in toto*, with the weighing system, and the result is that still smaller boxes are made use of. The most popular of them all is the three-pound size ; and the old plan of weighing is almost done away with among the best class of dealers.

The form of the principal packages made use of now is the round paper, or wood covered with paper, and the square wood box. In the round boxes there is but little difference. Except in one pattern, the bottom is left out to enable the packer to present a better top surface to the fruit than when packed from the top. This arrangement is also connected with the wooden box alluded to above. The additional advantage of this plan is, that if a few berries are mashed in closing the bottom it does not hurt the sale of the fruit. In making choice of a box, you should learn which kind your dealer prefers ; as one dealer sometimes has a demand for one kind, and another dealer for another, each can handle

that kind to a better advantage than the other. These boxes are packed in skeleton cases, containing from thirty to ninety pounds.

The Concord being one of our earliest, is, also, one of our most tender varieties, and it requires the greatest care in handling in order to get it to market in prime condition. As all growers are aware, the skin is thin and tender, and liable to burst on the least pressure when it is thoroughly ripe. This difficulty can be avoided in a measure by picking before this period arrives, although not before the skin is well blackened. I would recommend this plan only to those that are compelled to send them a long distance to market. If your fruit should begin to burst before you can pick it, be careful to take out the damaged berries when packing, and in order to do this every packer should be provided with a pair of sharp-pointed scissors to cut them off without injuring any of the other berries.

The Delaware is open to some of the above objections, with this difference. The skin of the Concord being broken, a dry mould frequently forms upon the pulp, and the damage extends no farther than the berry affected; while the Delaware is of such a juicy character, that, on breaking the skin, the pulp frequently runs out through the box, which often sours in one night, and spoils the sale of the fruit. I would recommend the three-pound box for this variety.

The Isabella being a hardy grape, will resist much rough handling, and a five-pound box is small enough for them; but they should not be sent to market unless thoroughly ripe. Any redness of the skin indicates an unripeness that injures the sale.

The Diana, Catawba, and other well-known varieties can be packed in the same boxes as the Isabella. The Diana should be more closely examined before packing than any other variety, and all the imperfect berries inside of the cluster removed, or they will decay in a short time and spoil the perfect fruit. Grapes that have *no* bloom are considered only of an inferior quality, and the perfection of the bloom always enhances their value. Boxes should *always* be packed full. The dropping of the grape from the stem is a serious objection; it loses all value, except for peddlers and wine-makers.

As a general principle, all black grapes are classed at about the same rate of prices, while the other varieties have each their distinctive value, the white fruit ruling the highest.

NEW-YORK, 1868.

NOW AND THEN.

Beautify your Homes.

BY THE EDITOR.



HERE is not a place in the entire country but can, to some extent, be improved in ornamental appearance and effect with but little trouble and at little expense.

Farmers especially are apt to think that, because they are poor and their means limited, they are unable to carry out any ideas of improvement; or, if they are well off, they are always waiting for some time to come when money will be more easily spared, or they can have more leisure for the purpose.

In fact, there is a belief, widely prevalent among plain country folk, that pretty houses and attractive surroundings are entirely unnecessary, too costly, do them no good, do not belong to the farmer's humble lot, but to the village resident, or those who come from the city, who alone are supposed to possess the proper taste and necessary means.

This is all wrong. If country life was only made more pleasant by the addition of beautiful and tasteful improvements around every farmer's door, we believe that farm life would present better inducements than it now does for contentment to the young, who are so anxious to leave home and trust themselves on an unknown mercantile career.

Is the old farm-house homely, gambrel-roofed, and brown, and you think you can not afford to build a new one?

Never mind; if there is only cheerfulness within the old one, it is better than discontented spirits in a new one. Paint up that old brown house; you can afford that at

least. Let the colors be soft or lively, as you like ; shingle it over new, and make the roof clean and dry ; dress up your blinds in beautiful green ; twine around your porch the honeysuckle or the climbing rose ; and wind up the sides and corners of your house the ivy, or some evergreen climber.

Take carefully from your woods or fields the evergreen spruce or fir, and plant a dozen or more in front of your door. Plant along the road-side a few maples and elms in alternate rows ; let your wife or daughters get some flower-seeds and bulbs, and plant those also in front of your parlor window ; paint up your fence, and make it neat.

Then wait for the gentle warmth of the sun, and watch the appearing of the leaves of the trees, the budding of the flowers, the coming forth of the bloom of the honeysuckles and roses, and notice how quickly the creepers climb up the sides of the house.

Wait, too, until some beautiful day in summer, when one of your old farm friends and his family comes to visit you. Listen to their exclamations of pleasure at the simple and wonderful transformation ; look at the pleased faces and bright smiles of your wife and children, and you will feel you have at last got something worth praising—something to compel respect from your neighbors.

Watch the travelers by your house, as they partially stop and look over your little yard, and with silent praise testify to its beauty.

When some Sunday afternoon comes in early summer, and you return from church and drive up to your house, as you look over the fence, the flowers, shrubbery, and lovely deep green of the silk-soft, wavy grass will impress you with sentiments of beauty you can not force away. How charming it is, and yet how little it cost !

Watch the influence of these little things upon your children, how rapidly their taste and manners improve ; how much more cheerful they are in disposition ; how quickly they gain a superior standing among their school-fellows ; how popular their home becomes as a visiting-place by their friends.

See how gradually books and papers find their way into your house—how well they are read and remembered ; see how insensibly your own tastes improve ; how much better you farm it than formerly ; how well you are able to get along. The farm produces more, and, notwithstanding the apparent increase of expenses, yet you are able to meet them, and find, at last, that it does pay to adorn your homes.

The influence will not rest here. This is but the commencement of a series of salutary lessons which must be taken. Every one of them will produce a greater and still increasing good ; the exertion will be less and less hard, and instead of being, as it once was, an object of dread, the beautifying of your place will become a *labor of love*.

There is a class of persons who come out from a city to locate in its suburbs with ill-defined notions of how to appreciate and enjoy country life to best advantage.

By the time their house is finished their capital is entirely exhausted, and further improvements seem to be impossible. For months, or even years, the debris of the builder hangs around the house in unsightly heaps ; or, if even wheeled away, no effort is made to lay out the ground neatly, and form neat lawns.

In how many towns and villages have we seen scores of such houses, repulsive in their very plainness, and always carrying in them an unfinished look !

By and by the place changes hands, and the new proprietor begins to improve his lots or acres as soon as he can, by setting out choice trees, shrubs, and flowers. He thinks nothing can make home so attractive to his family, or so delightful to himself, as the cultivation of a few of nature's fairest gifts.

He twines the honeysuckle around his porch, and in summer sits on the piazza, and watches the humming-bird and bee fly in and out, gathering their fragrant store.

He decks his lawn with beautiful tulips, peonies, roses, pansies, dahlias, and other flowers, and laughs to see how his neighbors stop before his gate and gaze with admiring eyes on the delicious sight.

What a charm his cottage immediately possesses, and how great the contrast with other plain and barren yards around !

Year after year this tasteful man adds here and there many a choice root and plant, and never fails or flags in his love for such beauties until the little field becomes almost a paradise in itself.

We can not expect great results from every suburban resident. Tastes differ, and people differ in their powers of application and perseverance ; but every human being is capable of exerting an effort and accomplishing some such result, be it of greater or less comparison.

Plant out handsome variegated shrubs, the Japan quince, snowball, deutzia, and others, that, when flowers are lacking, there will be something to give pleasure.

Plant out evergreens, that, when both flowers and shrubs are gone, there will still be left an element of life and beauty, and your grounds not seem altogether bare and desolate.

Every owner of a country place, from a single lot to a villa site, or a large farm, should possess, according to his ability, either few or many of these charming adornments and indispensable accompaniments of a well-kept country home.

The possession of them will enable him to spend his days in peace, and enjoy with quiet contentment the luxury of such a rural life, while the influence of these simple yet beautiful charms will be productive of an everlasting good in both mind and heart.

“ More than building showy mansions,
More than dress and fine array,
More than domes and lofty steeples,
More than station, power, and sway,
Make your home both neat and tasteful,
Bright and pleasant, always fair,
Where each heart shall rest contented,
Grateful for each beauty there.

“ Seek to make your home most lovely,
Let it be a smiling spot
Where, in sweet contentment resting,
Care and sorrow are forgot.
Where the flowers and trees are waving,
Birds will sing their sweetest song ;
Where the purest thoughts will linger,
Confidence and love belong.

“ There each heart will rest contented,
Seldom wishing far to roam ;
Or, if roaming, still will ever
Cherish happy thoughts of home.
Such a home makes man the better,
Sure and lasting the control ;
Home with pure and bright surroundings
Leaves its impress on the soul !”

A Model Country Residence.

BY DUGGIN & CROSSMAN, ARCHITECTS, 191 BROADWAY, NEW-YORK.



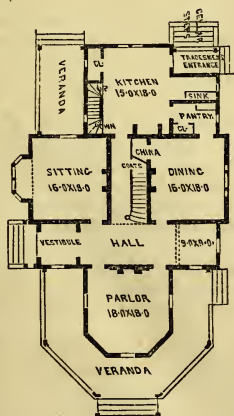
HE house, illustrated in the accompanying plans, was erected in 1860, at New-Brighton, Staten Island. It is situated on high ground, and commands extended views over New-Jersey, New-York, and Long Island.

It is planned on an economical scale, and, at the same time, is liberal in its arrangement. All the rooms are of moderate yet comfortable size, and the general character of the design is such as to commend it as a residence suitable for any family of taste.

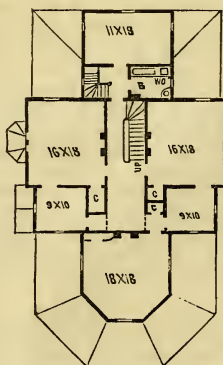
THE ARRANGEMENT.—Passing through a vestibule, the hall is entered, from which doors open into each room ; by this means a free circulation of air through the various apartments is secured. It will be observed that the hall is symmetrically arranged, the doors to the several apartments being placed directly opposite each other ; this gives



DESIGN FOR A MODEL COUNTRY RESIDENCE.



FIRST FLOOR.



SECOND FLOOR.

the hall a very handsome appearance, and places the different rooms in easy communication with each other. That portion marked off at the end of the hall, if deemed best, might be partitioned up, and a door placed in the centre. This would form a comfortable little library or study; or, if preferred, be left as at present, with simply an arch thrown across the hall. To this arch could be suspended curtains, which, if hung in festoons and gathered up gracefully, would tend much to enhance the appearance of the hall. With the arch and curtains this space could still be appropriated as a library or snugery, to be inclosed by the drapery when in use. A French casement, or sash door, is provided from the vestibule, and from the end of the hall, for easy access to the veranda, thus avoiding the necessity of passing through the parlor for that purpose.

The principal stairs are placed in a side hall; under these stairs a closet is provided for hats and coats. This side hall also answers the purpose as passage to the kitchen.

The kitchen is of ample dimensions, and is fitted up with every convenience, such as range, boiler, dresser, closet, etc. A sink-room is also provided in connection with the kitchen, in which is placed the pump to supply the tank in the third story. The communication to the dining-room from the kitchen is through a pantry, the doors of which are so arranged as to prevent, as far as possible, the fumes of the kitchen gaining access to the dining-room.

The dining-room is a very pleasant apartment, with a convenient space on either side for a sideboard. A china closet is also provided to this room.

The wash-room is located in the basement, underneath the kitchen. The space beneath the pantry, sink-room, and kitchen porch is walled up, and paved and connected with the outside by the cellar steps. The remainder of the basement is devoted to the furnace, coal, and store-rooms. Should more room be required on the first floor, the kitchen could be removed to the basement, taking the place of the wash-room, and a dumb waiter provided in the pantry. This would allow of the present kitchen being used as a dining-room, and the present dining-room for any purpose required.

With regard to the arrangement of the second story, little need be said, as the plan is self-explanatory. The small rooms are made to communicate with the chambers, so that they can be used as dressing-rooms if required. The front small room might be increased four feet in length by taking away the closets; in that case a closet to the chamber should be provided alongside of the fireplace.

Three chambers are provided in the third story, with closets attached. That portion of the third story over the parlor is left unfinished, and makes a convenient place for storing away trunks and other articles. There is also a small room in the tower, but the stairs to the upper story of the tower interfere somewhat with the available space.

The height of the basement is seven feet, the first story eleven feet, the second story nine feet six inches, and the third story eight feet in the highest part.

CONSTRUCTION AND FINISH.—The foundation or basement walls are built of stone and twenty inches thick. The outer surface where coming against the earth is plastered up with cement, so as to keep out the dampness. All the walls above the basement are constructed of wood. The frame is filled in with brick, and covered on the outside with narrow rebated clapboarding, the window cases being cut out of plank one inch and a half thick. The roof is covered with ornamental cedar shingles. All the workmanship and materials are of the best description. The rooms on the first and second stories have appropriate moulded cornices and centre-pieces. The spaces between the roof rafters are filled in with an additional coat of lathing and plastering. This is but a trifling additional expense, and keeps the attic rooms warmer in winter and cooler in summer.

From the back of the kitchen-range a hot air flue is provided, connecting with the bath-room over. This answers the double purpose of heating the bath-room, and at the same time prevents the water in the pipes from freezing.

From the upper story of the tower a very extended view is obtained of the surrounding country. To make this room even more interesting, the sash is glazed with stained glass of different shades and grades of color. Looking through these various tints, it has a singularly interesting effect. It also has the recommendation of subduing the glare of light that is generally an objection to these tower rooms.

Culture of the Cranberry.

BY F. TROWBRIDGE, MILFORD, CT.



S the raising of cranberries is receiving more attention from those who are interested in their culture, a few facts in regard to their growth, culture, etc., will be of service to all who wish to raise them for their own use or market. Success in raising cranberries is owing entirely to thorough preparation of the ground and subsequent culture.

THE SOIL BEST ADAPTED is low, moist land, suitably drained, so that the water will be twelve or eighteen inches under the surface.

As the plant draws its nourishment from air and water, it is not of consequence how poor the soil may be. Light soil, or that destitute of organic matter, is better for their growth; hence, if the ground is covered with much bog or peat, it would be of great service to remove the top of the ground to a compost heap, and cover the remaining soil with sand to the depth of three to five inches.

The sand tends to prevent the growth of weeds, wild grass, etc.; is easier cultivated, and keeps the ground loose around the plants.

If planted directly on muck or rich soil, they are apt to make too rank a growth, sometimes ten or twelve feet in length, and cover the ground over with a mat three or four inches thick; and as the fruit grows on the ends of the shoots, the rank growth throws out but few buds; but if sanded over, the shoots are of short growth, the plants become rooted, and throw out stronger fruit-buds.

They will grow on moderately damp soil, that can be plowed or cultivated, or in garden soil not too dry, and produce a fair crop on such land; but will not do well on dry sand or clay. Where the soil is partially dry, they can sometimes be covered with tan, sawdust, or any thing that retains moisture, spread on the top of the ground; they also grow well on the borders of streams and ditches.

OVERFLOWING is desirable, and I might say it is almost indispensable to do this late in the fall. It is non-essential as to the depth of water over them. It can be let off again from the 1st to the 10th of May. If it can be done, it is desirable to have the flow so regulated that it can be let off or on in the course of a few hours; so that, in case of drought or attack of the worm, it can be let on for a short time; it should be used also in the fall while gathering the fruit, for a frost may seriously injure it for market. In prospect of any danger, the water can be let on until it is past; or if it is desirable to keep the fruit over the winter, the berries can be left on the vines until spring, when they will be as fresh as if gathered in the fall.

THE VARIETIES.—There are three varieties—the cherry, bugle, and bell—generally cultivated. The large round *cherry* is a late, not prolific bearer, and does best on quite damp soil. The *bugle* is quite handsome, not as late as the cherry, and not as prolific as the *bell*, which is the most generally planted. It is early and prolific, and is the kind usually sold as Cape Cod cranberries. It is also the kind sold by some dealers as upland; but there are none strictly so.

PLANTING AND CULTURE.—When the ground is well prepared, lay it out as you would for planting cabbage, strawberry, or other plants, using a pointed stick or dibble to make a hole four or five inches deep, in which you place the plant, press the dirt around it, and the root and stem will soon start to grow. The remainder of the vines may be layered in the ground, leaving the shoots or stems above. The vines covered will take root and much sooner cover the ground. Another plan, adopted by many, is to take the vines up without roots, often six or eight feet in length, which they cut up and sow in drills, or lay the vine down and cover with dirt. In this way it will take from twelve to fourteen barrels of vines, costing \$4 or \$5 per barrel, to the acre. The reason for this course is, that where vines are grown on rich muck or soil, they do not make roots, but all mat together, and the above is the only way they can be planted out; but where the ground is sanded, they grow more upright short vines with roots. These are the best to plant out, are packed close for transportation, and the only kind that can be forwarded by mail.

They are tied in bundles of 100 each. Ten thousand can be packed in a barrel, sufficient to plant an acre, two feet apart each way; but if the vine above ground is layered as proposed above, the two feet between each plant will be filled at once. Ten thousand plants will cost only \$25, and much less for transportation. If planted this distance apart, they can be cultivated with a horse hoe or cultivator to keep out the grass and weeds. After two or three years' cultivation they will take care of themselves. If wanted in small patches or in gardens, they can be set a foot apart and will cover the ground much sooner. They can be planted out at almost any season of the year—when the ground is not frozen, in the fall from September, at the North, until the ground freezes, or in the spring until July. At the South and West, if possible, they should be planted from October to January or February. If received too late for planting, the roots can be covered with dirt in a box and placed in a cellar, until they can be planted out. Where there is no overflow, I am satisfied that they can be planted out in early spring until July, as well as fall.

Every family can have their garden patch, and in dryish soil, grass, meadow muck, tan, or sawdust around the plant will be beneficial to retain moisture. They are highly ornamental in pots, the fruit hanging on the plant until the blossom appears for the next crop. They often bear a few berries the first year, and increase every year, coming into perfect bearing from five to eight years, averaging 100 to 150 bushels per acre—sometimes yielding as high as 300 bushels.

A point worthy of notice is, that cultivated fruit is less likely to be affected by drought than wild fruit.

Can we raise Oranges in the Middle States?

Something new to Horticulturists.

BY THE EDITOR.



WE write these words the intelligence comes to us that, through a large portion of the South, and even in Northern Florida, the orange trees have been killed by frost, and the prospect of thousands of oranges blighted in the bud.

In our researches for facts of the curiosities of fruit culture, climatology, and botany, we have met with something which leads us to believe that we shall yet see the orange tree growing and thriving as far north as Philadelphia or New-York, standing the severest winters, exposed to the open air, without any more injury than a peach or even an apple-tree.

There are existing in foreign countries thousands of useful plants, waiting only for the hands of some enterprising naturalist to gather and transplant them into a congenial home in this country, and yet it is not done.

We give now a chance for any one to distinguish himself by introducing into this country one or more new varieties of oranges of a more hardy nature than any now known to America, and making experiments for acclimatization.

In the province of Durango and Chihuahua, Mexico, lat. 28°, there grows an orange tree on the elevated table lands, the pulp of whose fruit is described by Siemann, as being "exceedingly full, rich, and savory, the only species indigenous to America."

The climate of the table-lands of these regions is the same as that which characterizes all the elevated plains of Mexico—dry, and not subject to extremes of heat and cold.

Toward the end of February the night frosts cease; spring commences, poplars and willows begin to grow green, peaches and apricots put forth their blossoms, but the temperature alone, though fast increasing during April and May, is not sufficient to awaken nature altogether. The fields remain dry until—toward the latter part of May, or beginning of June—the vivifying rains set in; in a few days every herb, every shrub and tree has started into life, and the vegetation develops itself with great rapidity; the season answering to the North European spring has commenced. Early in September the rains

cease; in October the night frosts (which last until February) recommence; besides this there are few indications of winter; snow seldom falls, and never remains long on the ground. The great aridity of the climate is best illustrated by the fact that though the rainy season only terminates early in September, there is very little water to be met with in any part of the plains during the winter months. The periodical streams seem to disappear at the moment the rains themselves cease, and the perpetual springs, streams, and small rivers are so few in number that the traveler has very often to search for hours ere he is able to meet with water. In such a climate as this grows this orange tree. The city of Durango, situated 6000 feet above the ocean, is described as filled with courtyards and planted with these orange and pomegranate trees.

Is it not reasonable to suppose, from the similarity of seasons and partial similarity of climate to certain portions of our Middle or Western States, the seeds or plants from those orange trees can be brought to this country and stand every reasonable probability of a successful acclimatization? Who will do it?

Robert Wight also tells us, in his *India Botany*, that far off in Asia, in the country of the Circars, "there is a red, loose-skinned orange, which arrives at so great a perfection in those Alpine tracts, that it has been called the *hill orange*. This, to my taste, when in perfection, is by far the most delicious of the whole tribe; but judging from the nature of the climate in which it is said to arrive at its greatest perfection, (a cold, very humid atmosphere,) it seems next to impossible to rear it successfully on the plains. It must be recollected that to attain perfection it requires a considerable range of the thermometer; the heat in their favorite valley—being high during the day, but low during the night—supplies this desideratum."

From these two climates, producing two beautiful varieties of oranges, it would seem possible to obtain a variety that would be as easy to grow in our American latitudes, and become eventually as common in our gardens or on our lawns, as are now the quince, the dwarf-apple, etc. Here is a new field for horticulturists to explore.

Scaffold Training for Grape Vines.



HAT a perfect method of training grape vines has not yet been universally adopted will be conceded, and may not be for years. In our search for that best method, why should we follow the same old paths, when those who have gone before only report failure? It seems the true way must soon be found, for all the false ones have been threaded to their ends, and new ways have been tried until there are no more new ways.

"Where is the true way, then, if all the old ones are false, and there are no new ones?"

Not so fast. I did not say all the old ways are false, but that all the false ways had been proved false, and there were no more new ones to try.

"Let's hear, then, your perfect method at once."

Go with me into the forests, and when we study nature awhile, and determine from her examples the best mode, it will be *our* plan, *not mine*, and you will not feel yourself called upon to oppose it.

"But do you mean to assert that we must abandon our vines as they are in the forest?"

Calmly. Nature always does exactly right; when surrounded by the most favorable circumstances, the most favorable results follow; the vines in the forests do the very best they can *under the circumstances*. Art, culture, can change these circumstances, but the results are *natural* results after all; and art, not nature, is to blame if such results are not satisfactory. "Admitted." Well, now to our lessons. Look at that gigantic wild vine. For several feet it lies along the ground, makes one loose coil around the immense trunk that supports it, then hangs aloof and does not touch again until where the great limbs leave the body. It looks like a great cable, and you wonder how it ever got up there. "You do not advise all that naked wood, and the immense height of the fruit from *terra firma*,

do you? And could we get at the fruit, through great risk of life and limb, 'twould only be sour grapes at last." Patience! these are but the adverse circumstances I spoke of. The superior flavor of the fruit of your sickly hot-house pets is the natural result of the careful culture their parents for many generations have received. But I would call your attention particularly to the beautiful display of fruit on that branch over our heads. The limbs and twigs of this branch spread out like a fan, so that its leaves enjoy equal advantages of sunlight and heat. Taking advantage of this support, the vine has covered every part of it, spreading its leaves to the sun in the same way, while all the clusters hang down below the network of twigs and the sheltering leaves. This is the lesson we should learn. If nature had intended that the fruit should be exposed to the sun, then the clusters would have been on the top of the bough instead of sheltering so securely beneath its canopy. Now, what old mode of training does this most resemble? Of course it is nothing like stake training, nor any of the modifications of trellis training, but the good old-fashioned arbor or scaffold training. "But you surely do not claim scaffold training as a perfect mode?" No, or I should contradict myself, for I said there is as yet no perfect mode known; but I do believe it is the right path in which to go on looking for the perfect way. And if viticulturists, bringing all the knowledge they possess, will "fight it out on this line," it will not "take all summer" to reach the end they have so long sought. I believe in following nature much more closely, especially in propagation. Plant seed of healthy, vigorous varieties for stocks, and graft the proved varieties on them, just as you would fruit-trees, using a *whole seedling*. I believe the cheap and rapid propagation, by cuttings and layers, is a great cause of disease in the vine. Our best pomologists assert that rot in apples is caused by grafting on pieces of roots, and I believe that pear-blight is caused by grafting on rooted cuttings, suckers, and pieces of roots of quince and pear. (See article on "Causes of Blight in Pear-Trees," in June number of *Southern Cultivator*, Athens, Ga.) Another cause of disease in the vine is the barbarous system of pruning, almost universal. Though the fruit is borne on growth of present season from that of last, that is no reason why you should prune away all old wood, keeping the vine the size of a two-year old, though it be ten years old. Peaches are borne only on growth of last year. Why do you not set your orchard 4x4 feet, and adopt an "alternate *sprout*" system, reducing the old wood to a mere stump? If the "sprouts" grow so fast, and so much out of shape, as to be in danger from winds, stake them, or train to a wire trellis, and you have peach culture reduced to the same scientific absurdity that the grape culture of to-day presents.

A correspondent in the August number of the *Horticulturist* says, "I am getting a great quantity of foliage," etc.; he wants the sanction of art before he does something that nature tells him is not right. As a vine grows older, it insists in stronger terms on being allowed to run; and had I that "great quantity of foliage" I should "let it run," and see to it that it had plenty of room, and something to run on. On a perpendicular trellis, with close planting and severe pruning, the vine is in its most unnatural position, except when flat on the ground. Again, the natural tendency of a young vine is to run up perpendicularly, and of a bearing vine, to spread out horizontally, which natural desire is gratified by the support of the horizontal scaffold.

To recapitulate. To give a vine the greatest natural advantages and insure the most satisfactory results:

First. Graft it upon an entire, healthy, seedling stock.

Second. Give it plenty of room to spread its roots in a good soil, and its branches in the sunlight.

Third. Train upon a horizontal support or scaffold, allowing the young growth to run freely during the growing season. Early in the fall, prune canes to from three to six eyes according to position on scaffold, etc.

Undetermined. The best mode of cultivation; and whether, in vineyard culture, it is advisable to cover the entire surface with scaffolds and vines, or to plant in strips, with intervening strips cultivated in low-hoed crops. On ground level, or nearly so, I think the latter plan advisable, while on steep-terraced hill-sides, the soil will get plenty of sunlight and warmth by the former method.

Peach-Trees.—Height of Branches.

BY DR. E. S. HULL, ALTON, ILL.



HALL we grow our peach-trees with branches starting from the ground, or shall we prune? and to what height? These and similar questions are now often asked. We think it would be superfluous to give any instructions in growing fruit-trees to low heads, since, for the past sixteen or eighteen years, all our journals, both horticultural and agricultural, have vied with each other in descriptions how best to accomplish, as they supposed, so desirable a result. Indeed, so much has been written on this point, that we have gone from trunks six to eight feet high down to those of as many inches. These low-headed orchards, on coming into bearing, have disappointed, or must soon disappoint, their owners. The conditions of growing peaches at the West are now so changed from what they were but a few years since, that trees with low heads are, in the main, no longer a success. They increase the labor of cultivation manifold. The low branches cut off the under-circulation, inducing disease in the foliage, and rot in the fruit. They invite insect enemies, and make it difficult, if not impracticable, to arrest their ravages. In short, low heads are a failure at the West, and the sooner we can induce people to start the heads of their trees at a proper height, the sooner will it be possible to successfully destroy insects, to ward off diseases, to insure color to the fruit, and make it practicable to cultivate quite up to the trees by means of horse-power.

In planting a peach orchard, we select trees of one season's growth from the bud. These, if well grown, will be not less than five or six feet high, and will have many side, or lateral shoots, branching out horizontally from the main or vertical stem. In addition to the side branches there will also be found numerous buds, extending from the ground to the top of the tree. Cut away all the branches and buds to the height of twelve or fifteen inches; next cut away all buds below the point at which it is intended the tree shall form its head, except six or eight buds, which are to be left at regular intervals, and on different sides of the stem. These last-mentioned buds will push into as many branches as there are buds. It will be necessary to keep these side branches pinched back to ten or twelve inches during the summer, to prevent them from running off with the growth, and robbing those buds and branches selected for the future head of the tree. Some time after the fall of the leaves, and before growth commences in the spring, reduce the side branches to one bud each, and when the branches from these buds shall extend to ten or twelve inches, pinch them as directed in the first year. The treatment will be the same the third year as we have directed for the second; except, at the end of the season, cut away all the side branches except those intended to form the head of the tree. The object of the side branches, of which mention has been made, was to strengthen the stem or trunk of the tree; without them the trees would have become top-heavy, and bend the trunks. Trees grown as we have described will have straight and tapering stems, which will be of sufficient strength in their fourth year to stand erect.



The Flower-Garden and Lawn.



IN all that relates to a flower-garden or lawn, order and neatness are indispensable. At this season, special attention should be paid to these qualities. In making your arrangements for your pleasure-grounds, allow abundance of room for the lawn. Of all arrangements for ornamental effect, a clean, smooth lawn possesses a beauty almost unequaled by even the most brilliant flowers and shrubs which are interspersed here and there. The lawn should have a dressing of good rich soil, or compost, before the middle of March, and grass-seed should be sown during the first week of April, just before a rain. Sow the seeds over the ground, rake in with an iron rake, and roll immediately afterward when the ground is dry, for if wet, the soil and seeds will adhere to the roller. From a quarter to half an inch is not too thick to cover the lawn with compost.



Winter Gardens.

BY ROBERT MORRIS COPELAND.



WHETHER passes through Chestnut Street, in Philadelphia, may see, between Eleventh and Twelfth Streets, a small winter garden which is kept supplied with plants in blossom, or with gay-colored foliage, all the season. Generally it exhibits a large number of rare and unusually fine orchids, and as they are a very difficult class of plants to maintain in perfection, but few are familiar with the beauty they offer in form and color.

But with a rare liberality and generosity, the owner of this little garden permits all of us to share with him in the pleasure these plants can give.

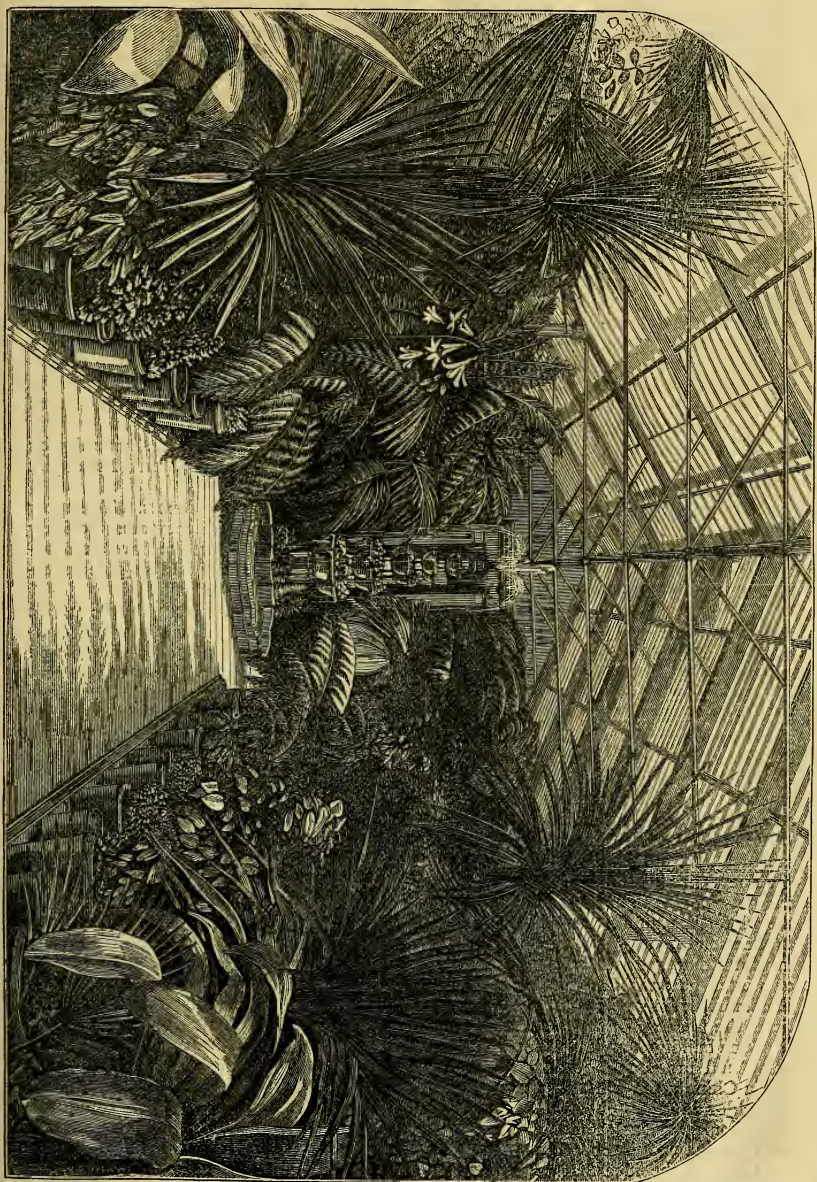
Whenever we pass the windows that give admission to the beauty securely covered from cold and storm, we find ourselves one of a mixed company; old and young, rich and poor, turn aside, even if only for a moment, to look and gather a pleasant memory as a companion during the day.

Thousands of persons, each year, look at these rich colors and strange forms, and wonder what are the names of these plants they admire, and what countries are blessed with them. Probably a few, who have had a little experience, count the cost, and congratulate themselves that they are spared the drain on their purses which attends hot-house culture of plants, or sigh for the time when their income will warrant them in doing likewise. No public or private bounty expended in Philadelphia, during the year, gives more pleasure, and does more real good to the minds of the people, than that which comes from that unpretending little conservatory.

It is useless to try and analyze the reasons, whether it is the contrast between winter's cold and frost, and the color, fragrance, and foliage of the protected plants, or whether it is the actual influence of the plants themselves—equally potent in winter or summer—certain it is that every one is strangely charmed and affected by a visit to a well-stocked and well-managed hot-house in winter. In summer the warm weather, the foliage on the trees, the green grass and singing birds give the mind an amount of relaxation and diversion which makes a collection of plants rather a trouble than a pleasure to their owners; but when frost once locks up the ground, or even on its first coming nips our summer flowers, the trouble ceases to be considered, and we begin to recall the old favorites, rename the varieties, and to anticipate the tender pleasures their contrasts of form, color, and fragrance are to give us before the crocus and bluebird once more invite us out into the fields. Flowers seem to have some mysterious connection with the mind; the love of them, or at least an active interest in them, manifests itself in every one at some time in his life.

It is not surprising that children, however poor or ignorant, should be attracted by them; but it is not children only who confess their power; men of middle age, who are hardly able to struggle against the waters of adversity or support the weight of business, will find time to pluck a flower for child or grandchild, maid or wife, or even for their own button-hole on some gala day. A pot of geranium or violets, in the cobwebbed and

INTERIOR OF WINTER CONSERVATORY.



dirty window of a tenement house, will be noticed and admired, and perhaps praised by hundreds, who rush past only too glad to escape the confusion, dirt, or squalor which reign triumphant on all sides.

To argue the universality of this love is as useless as to argue the importance and value of fresh air to the lungs. We know that it is so, and few will venture to deny it.

Many who cultivate flowers are interested because others buy them, and they devote their time to them with no more particular regard for the flowers themselves than if they were bales of goods, or boots and shoes.

But this is true only of the flowers they produce themselves; let the most mercenary florist go out into the country for a holiday stroll, or visit the gardens or houses of a neighbor, and he will show, by his attention to the flowers he sees, his comments on their color, form, habits, that he really understands and responds to their power as individuals, independently of any possible selling qualities they may have.

If this is true—and it is—why are there so few who offer to the public the enjoyment which follows a visit to a well-kept winter garden? No one can make and maintain a green-house, hot-house, or conservatory, without a liberal outlay and constant expense, and when made, the enjoyment is not unalloyed because of the trouble which will come with their possession. To be successful, we must have a good gardener, a rare and high-priced man. When we get him, he may be so pretentious or dogmatic that he makes us feel that the houses are his, not ours, and that he kindly or condescendingly permits us to enjoy the beauty he has created.

The better man he is, and the better flowers he makes, the more he can tyrannize by the ever-present threat, "Well, sir, just as you please; but if that be so, you'd better just suit yourself with another man."

To have satisfactory houses in winter we want plenty of good gardeners. To supply these we must supply means of educating them, and when educated they must be fairly paid. Then, with a large number to select from, an amateur may hope to have a reasonable enjoyment of his houses and a fair return for his outlay. But could we give an unlimited supply of gardeners we should touch but one part of the difficulty.

No one wants gardeners but the rich, and but few who are rich can give the public access to their treasures. The public is an unruly animal, and sometimes not over-honest, and might either steal or destroy, in a few moments, the result of the labors and care of years. To grow plants well, they must have plenty of light and heat and be near the glass, and all parts of the building be easily accessible to the gardener. But these necessities require small and very close houses, where there is but little room to move about and see the plants. Obviously the public can not have free entrance to such houses, and yet even these are costly to make or maintain.

Houses for the public must come under the head of conservatories, and be places for exhibiting plants rather than growing them, and can be erected and warmed only at a heavy cost, which it would be unreasonable to expect private persons to sustain.

Plainly, such buildings should be built out of the public funds, and should be maintained by the public just as much as parks and commons in summer.

The park and common, however beautiful, offer their attractions when most persons can get some fresh air and acquaintance with rural beauty out of the city limits; but in the winter the public must either forego all such pleasures and benefits, or supply them to themselves, and yet, as we have admitted, the influence of plants and flowers is greater in winter than summer, and better worth spending money for. So public conservatories or winter gardens, into which may be gathered, for winter enjoyment, all the freshly blossoming plants of any latitude, would be quite as useful and health-giving to the public as the fresh air of the parks and commons to their bodies in summer.

Such buildings need not be made to grow rare exotics, which are very difficult to develop and protect. The public, who do not know the difference between a heliotrope and a China aster, will not care more for a plant because it is a palm, or a fern, or an orchid, or an India-rubber plant from the tropics, than if it is a geranium or a carnation; they should have color and fragrance for their enjoyment, without loading the collection with the duties of a school for teaching the natural sciences.


Once let the idea that public conservatories and winter gardens are practicable be-

come fairly rooted in the public mind, and it will be easy to make and sustain them, and thus procure for all a greater pleasure than the trifling cost each tax-payer would have to give for his share.

The sale of surplus flowers and plants would contribute largely to the reduction of current expenses, and as the number of such establishments increased, the number of competent gardeners would increase in like proportion.

Landscape Gardening as an Art.

BY WILLIAM WEBSTER.

HE season being at hand when all those who have new places to lay out in the country will think of giving the subject their most serious attention, a few words on the theory of landscape gardening may not be inappropriate, especially as much misconception seems to prevail as to the true nature of the art. That landscape gardening is only just beginning to be recognized as an art by a large class of landowners in the United States is only too evident; but this state of affairs is scarcely to be wondered at when we take into consideration the exceedingly utilitarian character of our people. Many there are, and even persons of considerable intelligence, who argue that if we would seek for the patrons of art, we must look elsewhere for them than in the counting-room or exchange. But this is poor logic, and with those who reason thus, we respectfully beg to differ; for the merchant can, and often does encourage art, and not unfrequently, by a liberal disposition of his wealth, renders the artist most valuable assistance; and though but few of his class have much leisure for study, yet they can, by patronizing and surrounding themselves with the beautiful works of others, not only admire but soon learn to love them, and a taste for works of art once formed will seldom be forgotten. Every thing beautiful in art has its type in nature, and it is impossible to love the one without admiring the other. We are surrounded by the beautiful; the elements of beauty and of truth are met with on every hand. They pervade the universe, and it is from a careful study of this infinity of matter that genius derives inspiration. The painter views with delight the beautiful tints of the rainbow, and studies deeply the gorgeous coloring of a tropical sunset. The musician listens with rapture to the rich melody of birds as they warble forth their songs from amid their woodland haunts, and to the soft cadence of the summer wind as it murmurs through the tree-tops; in like manner does the garden artist gaze with pleasure on the magnificent and varied landscape as it expands before him, and as his soul drinks in the beauties of the scene his inspirations lead him to form new ideas, and then, as opportunity occurs, he carries them into execution. But it should not be inferred from this that the garden artist is a mere copyist, as many suppose. If this were indeed the true idea, of what use would gardens be to those who are continually surrounded with natural scenery? The art of landscape gardening is not a transcript of nature; it is something more than this. It is the essence of the scene which is to be caught and appropriated. And to those who think differently we would say, The sooner you disabuse your minds of the thought, the sooner will you come to understand the true principles of art, and the laws which govern art in landscape gardening. The province of the garden artist is to combine and arrange his materials, to refine and beautify his work, and to harmonize and give expression to the whole.

The materials he has to operate with come fresh from nature's mould. The strip of sod and mound of gravel, as they lie by the wayside, which by thousands are passed heedlessly by, and to them appearing as so much waste, are to the garden artist the same as pure gold and precious stones to the jeweler. He takes them up carefully, spreads them on a well-prepared surface, rolls and compacts the material, embellishes the scene with handsome trees and shrubs and beautiful flowering plants, tastefully arranged and harmoniously grouped, adding a little here and a little there, till finally, by his wondrous skill, the desert is made to blossom as the rose.



PRACTICAL HINTS FOR THE GARDEN AND GROUNDS FOR FEBRUARY.

THE GARDEN.—The cold beds, containing plants wintered over for early spring culture, will now need more care, in giving plenty of air and exposure, by removing the sashes, whenever the weather will admit. Light and abundance of air are now very essential, as well as good protection by covering cold nights, to prevent too great radiation.

A garden with a southern exposure, declining to the south, can be protected by a close wall or fence, run across its northern side, so that early or late crops can be much more successfully grown than in any other exposure. Such a fence or wall not only protects against high, cold northerly winds, but it also protects against frost, as it acts similar to a dam across a stream of water, holding back the cold air to its height when it pours over, not striking the ground till it reaches some distance from the fence, while the air under and back of this volume to the fence is warmer. To obtain the earliest and best results, then, from a garden, it should have protection of some kind, to break off prevailing cold winds; such protection, by keeping back cold air, radiates or reflects the heat, thus increasing the earliness and value of your garden.

In all garden operations, manure is the key to success, and its accumulation is always in order; now is the time to bring it into proper shape for use in the garden and grounds. A suitable supply will be needed, the latter part of this month or during the next, for the hot-bed; coarse horse stable manure should be accumulating and be turned over to encourage heating. If it is getting dry, water it with water drained

from the manure heap, if to be had, or with pure water. A supply of leaves should be in readiness to add to the manure to prolong its heating quality.

Where early forcing is desired, hot-beds may be made during the month. Various ways of making them are practiced by different gardeners; but as good a way as any we have found to be, to make an excavation twelve to sixteen inches deep, and a foot larger on each side than the frame to be used; fill the excavation with your manure, mixing in considerable quantities of leaves; lay the manure, etc., in evenly and close, so that when it heats and settles it will settle even, leaving no hollows or hummocks; fill in and raise till you get a bed of manure two and a half to three feet thick, build up the outer edges square; place your frame centrally on the bed, and bank the manure and frame with ten to twelve inches of earth; cover the bed with about six inches of fine rich loam soil, and rake it smooth and even; now put on your glass sash and let the heat rise; cover it nights with mats or shutters; the heat will rise to 100° or more; after it begins to subside, say fall to about 80°, sow your seed. If sowed earlier or at first, the heat is apt to destroy the vitality of the seed, although some varieties will endure a greater degree of heat than others.

Preparation for open-air culture should be in order at all times, when the soil is bound in frost, and to this end bean-poles and pea-brush should now be prepared in readiness for spring use; cut your bean-poles to an even length of eight feet, trim, sharpen, and pack away convenient of access when wanted. White birches make the best pea-brush, and should be cut to a length, sharpened, and piled in an even pile, with a weight on to press them in good shape for setting in the rows.

A thaw will give opportunity to dig such root crops, etc., as are left or buried in the ground over winter—parsnips, salsify, etc. Horseradish can now be dug for family use, be grated, bottled, and a little water added; it then makes an excellent sauce with boiled victuals, etc.

If you are fond of rhubarb pies, you can force one or two plants, and get a supply, by setting the roots in boxes in the green-house; or, you can put a headless barrel over the plant, out doors, and pack around it fermenting manure two or three feet thick, covering with several inches of soil and over the barrel place a glazed sash, which will soon start the plant and give a supply: such plants will, however, do but little, after thus forcing, till recovered the next season.

Success in gardening depends upon a supply of good seeds; for, however well other requisites may be provided and complied with, *good seeds* will only grow *good* vegetables and plants. Provide *now*, if not already supplied, a supply of good fresh seeds, true to name, and of the best quality. Test all seeds by sprouting in damp moss or soil, kept warm, or in a mild atmosphere.

FRUIT GARDEN.—The success in raising fruit depends upon *care*, as well as other circumstances and essentials; without care, fine fruit can not be expected. Insect and other enemies are to be looked after and destroyed; pruning and other culture are to be given.

All neglected currants, gooseberries, and grape-vines, and dwarf fruit-trees, may be pruned during a mild spell before the sap has begun to flow or start.

Strawberry beds, grape-vines, and other small fruits, not covered before, may yet have a covering of evergreen boughs given, and avoid the damage that would result from changes of temperature, freezing, and thawing.

Prepare posts and other material for trellises that may be needed for grape-vines, etc., the coming spring.

Spread manure around the trees, currant and other bushes, and plants, in the fruit garden, that were neglected in the fall.

ORCHARD AND NURSERY.—Trees injured by ice or snow should be looked after often, and broken limbs removed, and as soon as the frost is out of the wood pare the wound smooth and clean with a sharp knife, and if a large one, cover it with grafting-wax, shellac varnish, or clay and cow manure mixed, and bound on with a cloth, etc.

Go over the orchard and nursery frequently, to see that trees are not girdled or barked by mice or rabbits. If any are found thus injured, attend to them at once, if to do nothing more than pile snow and tread it solid over the wound. If attended to while the wounds are fresh, little fear need be entertained that the trees can not be saved by some of the various ways of treatment to be resorted to in such cases, such as bridging the wound with scions set in the bark—one end being inserted below and the other

above the wound; covering the wound with a thick varnish of shellac dissolved in alcohol; covering with the clay and cow manure mixture bound on; or even banking it over with soil well trod down, etc., all of which ways have proved successful when thoroughly performed and attended to in season.

All trees having loose outer bark, moss, etc., on their trunks and branches, would be benefited by scraping, and washing with a strong solution of soap and water, thus destroying insects and their hiding-places.

The eggs of the caterpillar will show, encircling small twigs, the varnish which covers them glistening, and showing quite plainly on a pleasant day; they should be removed and burned, thus saving the injury they would do if left to hatch.

The canker-worm moths will begin to come out as soon as the ground thaws, and seek to ascend the trees to deposit their eggs. The means of protection is "eternal vigilance." Many inventions and protectors are recommended, but none are entirely effectual. About as good as any is, to wind around the body several turns of straw rope, and place old rags or like in the crotches, and examine these frequently, seeking the moths and destroying them as discovered.

LAWN AND FLOWER-GARDEN.—Trees in the lawn and pleasure-grounds should have care, to see that snow and ice do no injury, or mice bark them; and if so, be attended to at once, the same as recommended under "Orchard and Nursery."

Pruning and manuring may be done wherever needful, and but few trees but what will be benefited by manuring. Remove all injured or dead branches, and those which disfigure the shape.

Flowering and ornamental shrubs may be pruned and thinned, or cut back, as necessary. Some which blossom on new wood are best cut back, others pruned and thinned to tasty shape.

Dahlias and other tuberous roots stored in the cellar should be looked to, to see that they are not too damp or commencing to mould; if either, they had better be removed to a more secure place free from either objection.

Stakes, trellises, and other wood-work which go out doors, are improved by having a coat of paint. Rustic work, to be made enduring, should have a good coating of oil given.

To work the garden and grounds, suitable tools are needed, which should be kept in good repair. Cheap ones are the dearest in the end. If new ones are to be purchased, do it now, and get good steel light ones made for service; a few cents difference in cost is more than made up in ease in their use and extra durability. Paint and repair old ones, and withal have a tool-room, and see that every tool has a place, and, when not in use, in its place. Time, trouble, and vexation enough will be saved, in one or two seasons, to pay the expense of a cheap tool-house.

NEW POTATOES.

THE excitement over the Early Rose has stimulated a host of other competitors, who are gradually making their appearance before the public. Here is one not yet described in any journal, with whose appearance we are very favorably impressed, and which has been shown at various meetings of the Farmers' and Fruit-Growers' Clubs, New-York:

THE EARLY PRINCE.—A seedling of the Early York. Is white inside and out; its length, one quarter greater than breadth, slightly flattened, the ends nearly equal; came from the seed four or five years ago; grows large in a good soil, and as many as twenty of fair size in a hill; are perfectly sound and solid clear through, and have never shown any signs of rot; are the earliest potato we have yet heard of. Grown side by side with the Early Rose, it proved five days earlier than the Rose in ripening, and much larger. A decided and marked quality is its edibility as soon as large enough to cook, and of a peculiar rich flavor, which it retains through the winter. Another point in support of its superiority is its dryness when cooked; it is a fine baking as well as boiling potato; produces equally well with the Early Rose as grown side by side. The originator, E. W. Harrington, Geneva, New-York, claims that the Early Rose is superseded by this new variety. From several good opportunities for observation, we believe the claims for excellence are well supported by facts and the appearance of the specimens shown. The quality of the specimen we tested was certainly quite excellent.

Albert Brezee, of Hortonville, Vermont, has produced a seedling claimed to be better than the Early Rose, is quite as prolific, has cooked well. Originated from seed-ball of Early Rose, in 1862; is quite a week earlier; known as Brezee's "King of the Earlys;" smooth face. Not as large as Early Rose.

BREEZE'S PROLIFIC.—Matures three weeks later than Early Rose. A seedling from Garnet Chili, in 1862; flesh, white, mealy; excellent quality; skin, dull white; tubers, very smooth, very flat, somewhat long; eyes, even with the surface; foliage, large; vines, bushy and somewhat spreading.

THE CLIMAX.—Described by D. S. Heffron, as follows:

"A seedling of Early Goodrich. Originated in 1864. It has a stout end stalk, of full medium height, and very large leaves; the tuber is quite smooth, in form of a cylinder swelled out at the centre; occasionally slightly flattened, and terminating rather abruptly; eyes, shallow, sharp, sometimes swelled out or projecting, and always strongly defined; skin, medium thickness, considerably netted or turrety, tough, white; flesh, entirely white, solid, brittle, heavy, and never hollow; it boils through quickly, with no hard core at centre; is very dry, mealy, of flowery whiteness, and of superior

table quality. In productiveness it is fully equal if not superior to the Early Rose; bears few small tubers; matures nearly with the Early Rose; while its keeping qualities are as good as the Peachblow."

If there are any more to excel these, send on the descriptions. The owner asks the moderate price of \$50 per potato for the above! Is there any now for sale at \$100?

 BLACK CAP RASPBERRIES

It is a popular misapprehension that black raspberries are not popular in the market, and not as profitable to cultivate as any other kind of small fruit. This, of course, is wrong; for facts prove it is very remunerative, and becoming every year a more and more popular subject with cultivators. As far as marketing is concerned, it already rules the Philadelphia market in preference to any red variety, while in New-York the sales are increasing every season. Warren Wight, of Waterloo, New-York, wrote us, a few weeks ago, his experience on this point, which we subjoin:

"To show whether it does pay to grow raspberries or not, I will give the yield from half an acre grown the past season. The plot contained originally 725 plants, of which number from thirty to sixty were killed out the first year by hilling up. The soil was composed of yellow sand, and a loamy heavy sand, with a clay bottom, on part of the plot. The variety, Seneca Black Cap. There were picked for market over forty bushels, which sold for over four dollars per bushel, and several bushels of which no account was made. What was picked for market were grown where it was sandy bottom. On the clay bottom there were from twenty to thirty bushels of berries which were left unpicked, from being so dried up as to be worthless. There was not enough rain, but once, after they had blossomed, to reach half way down to the roots. But, with the lack of moisture, had the plot been thoroughly cultivated, the loss of berries would have been small; but there was nothing done to them after they were hilled up in the spring. No one need expect to grow crops of berries without giving them proper care. In a favorable season, with proper cultivation, one hundred bushels of berries can be grown on the same plot where only a little over forty bushels were sold this year from it. If any one doubts that the above yield can be grown on half an acre, I would advise him to go and see various growers, and see the different yields; and, if he then have any doubts about such yields, let him come and see my plantation while in bearing, and I think he will have all doubts removed. But such yields are not required to make it pay; even fifty bushels per acre pays a great deal better than a crop of corn. Every one who has a rood of land should raise enough for his own use."

There are other varieties that do fully as well as the Seneca; the old Doolittle is earlier, and always good, succeeds anywhere, on poor ground or rich ground—always producing a good crop.

The Mammoth Cluster, though later, is admitted to be more productive still. The Davison's Thornless is the earliest of all, nevertheless the poorest grower.

If a novice, placed in a field of Black Cap raspberries, were to range the different sorts according to luxuriance of growth, the Seneca would be first, Mammoth Cluster next, Doolittle next, and Davison's Thornless last. In point of earliness the order would be—Davison's, Doolittle, Seneca, and Mammoth Cluster. In point of production—Mammoth Cluster and Seneca about alike, then Doolittle, and last, Davison's Thornless.

We think that, as a rule, the profit per acre on raspberries and all kinds of small fruits is either exaggerated or overestimated. If a grower, the first season, on fair land, can get \$100 for his fruit crop of Black Cap raspberries, he ought to be satisfied. If, in the second year, he gets \$300, he is well off; if, in subsequent years, he gets \$500, he is doing splendidly.

An average of \$300 per acre, clear income, year after year, is first-class receipts, no matter what the crop may be.

Lastly, one point of advice to beginners: New varieties are always high-priced; buy sparingly and test a year or two; put your main reliance on old standard sorts; the fact that they are old, and do not now create any excitement, does not detract from their value.

WHAT DOES IT MEAN?

A DOZEN gentlemen, this last fall, took the trouble to cross over from Vineland, New-Jersey, to Dover, Delaware, to see the merits of that section for growing fruit. After spending several days there, giving a good examination for a dozen miles around, they went back to their homes so delighted with their observations, as to determine to sell out at once and go thither. Now, be it understood, that Dover is forty miles further from New-York than Vineland, and that Vineland has an intelligent population of over 10,000, while Dover has but 3000 in her village. Land at Vineland is worth \$30 upward, while good land at Dover brings \$100 to \$200; and yet, here are a dozen knowing men deliberately evacuating the most populous stronghold of South New-Jersey, and going over into the arms of friendly Delaware. Does not this look as if the charms of South Jersey were beginning to decay, and that it was worth more to get better land somewhere else at even higher prices?

The lands around Dover are all richer than Vineland, are beautifully situated, well improved, admirably adapted to fruit-growing, are a week or more earlier than Vineland; the

facilities of reaching market are said to be better, and the general railway conveniences much more liberal.

An intelligent person told us lately (who had lived in Vineland from the commencement) that before a small place could be well cleared and prepared for cultivation, the cost would be nearly \$100 per acre; and, *after that*, must have abundance of manure to produce well.

Vineland people must look well to their laurels if these ideas get out and begin to spread. However, we will give South Jersey a fair editorial hearing soon, and see whether it will pay people with small means to go there and to *stay* there. But at present, Delaware seems to convert all who go there. We have not yet met a man who has been able to conjure a single serious objection to that State in its capacities for fruit culture.

GRIMES'S GOLDEN PIPPIN APPLE.

AT several meetings of the Farmers' and Fruit-Growers' Clubs, New-York, in December, there were exhibited many excellent specimens of this apple. The fruit was admitted to be of beautiful flavor and should rank among the best. It was introduced into Eastern Ohio from West-Virginia, where it was found in an old natural orchard, the property of Thomas P. Grimes, and he gives the following interesting facts in a letter:

"The original tree is on my farm, bought by father sixty-seven years ago, and, from our best information, it is not less than eighty years old; my father sold fruit from it to the New-Orleans traders as long ago as 1804. From my earliest recollection, this tree has never been known to fail of producing a good crop, excepting in 1834, when a partial failure was occasioned by severe late frost in spring. Our belief is, that it has not failed to produce fruit each year for the past three quarters of a century.

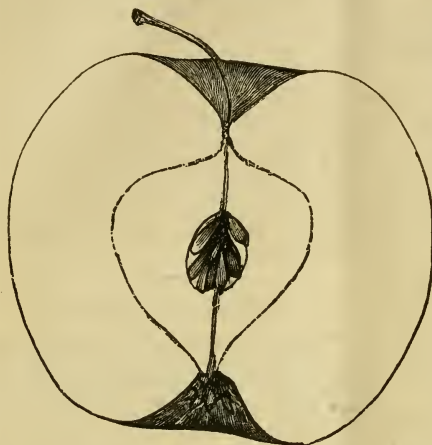
"The tree has not been pruned for the past forty years, and has had no sort of cultivation for the past twenty years, yet it is quite healthy, making fair growth, and bearing an average crop of fruit every season.

"From a grafted tree of this variety, planted eighteen years ago, I picked, last season, ten barrels of fine fruit. If I could only plant one variety of apple, I would choose this in preference to all others, for the following reasons: The fruit is beautiful, and unsurpassed in flavor; the tree is without a rival in hardiness, productiveness, longevity, and symmetry of growth; the fruit is fit for cooking in September; and for eating, from December till April, thus combining the good qualities of many in one."

This apple is a very old variety; yet, wherever planted, it has done so well that, at the present time, when the cry is raised on every side, Why are our apple-trees failing? it seems fit to call attention to this good old favorite as

one possessing many excellences for general planting.

We have alluded to this apple frequently before; yet, at the present time, when its merits



are being revived again before the public, it will do no harm to speak in its commendation.

All our leading pomologists, Warder, Downing, Elliott, Bateham, unite in the statement of its good quality, handsome appearance, thrifty growth, hardness; and, as far as yet known, possessing among apples the great advantage of an adaptation to all parts of the country, similar to the Concord among grapes.

If this be so, it is deserving of wide and extended notice. We have seen so many instances of new fruits brought forward for public favor, whose successes are only local and dependent upon peculiar soils and protection, that pomologists are usually very cautious in their recommendations. But, if one variety of the apple can be grown from one end of the country to the other, in varying climates and soils, and still with uniform success, it is the duty of every fruit-grower to bid it welcome.

NEW FRUITS

TYRE BEAUTY APPLE.—The *Rural New-Yorker* describes this as follows:

"This is a new seedling apple, which originated upon the farm of Jason Smith, Tyre, Seneca county, New-York. The tree, according to C. L. Smith, Esq., son of the originator, is a good grower, very productive; fruit of uniform size, almost universally fair, and especially a market apple. It has been forwarded to, and examined by, P. Barry, Esq., one of our best

and most competent pomologists, who ranks it best in quality, and suggests the name by which we here describe it. The fruit is of medium size, roundish oblate, light pale-yellow ground, with broken lines and splashes of deep crimson, shaded and marbled intermediate. Surface covered with a mouldy bloom, that, before being rubbed, shows prominently fair gray dots; but when rubbed down, these gray dots mostly disappear. Stem very short, set in a broad, open, deep cavity. Calyx with segments almost erect, and a very deep, open, round, regular basin. Flesh white, crisp, tender, breaking, slightly acid, pleasant, but not rich or peculiarly sprightly. Core small, and broad pointed. Season, early September."

LACON GRAPE.—This is a seedling, originated with D. B. Wier, Esq., an enthusiastic fruit-grower of Lacon, Illinois, and described by him in the *Prairie Farmer* as "a seedling from Concord seed planted in 1862, fruited the third year. A moderate grower, hardy and healthy; fruit black, entirely pulpless, with a refined sweet Concord flavor; bunch, as yet, small to medium; berry a shade smaller than Concord; ripened in 1866 with Hartford Prolific, in 1867 a week earlier—this year with it."

Mr. Wier states he has other seedlings—but as yet offers none of them for sale.

JANESVILLE GRAPE.—This is a variety advertised in some of the Western journals; but, if it has ever been described, we have not met with the description.

WYOMING RED is a variety described by S. J. Parker, in *Country Gentleman*, as resembling the Walter—very early, prolific, and hardy.

MOUNT LEBANON is another new grape that we have not seen. It is claimed to have "originated from seed of Isabella, crossed with Spanish Amber, and grown by George Curtis, Columbia county, N. Y."

SENEQUA is one of Dr. Underhill's new seedlings, of which he has several; but, as yet, we have seen no full description of them, or report of their promise of value. One is said to be a cross of Concord with Black Hamburg; another between the Concord and Black Prince; and another, a white grape, a hybrid between the Delaware and Chasselas Fontainebleau.

Messrs. Ellwanger & Barry, of Rochester, N. Y., have also, this year, exhibited a number of seedlings, one or more of which gave great promise of value. We have full descriptions and drawings, but the firm do not propose to name or disseminate until fully convinced of their value by trial in various localities.

NEW GRAPES.—Mr. E. B. Smith, of Marion, S. C., gives, in the *Southern Cultivator*, a description of two new varieties, from the Scuppernong grape, as follows:

"These three grapes all belong to the same

species—the *Vitis Rotundifolia*; all have the same general characteristics as to shape and size of leaf, the growth and extension of vine, the time, form, and disposition of flowers.

"Presuming all your readers are acquainted with the Scuppernong grape personally, or by description, I proceed to state the most marked differences when compared with that grape. The Thomas grape bears about the same number of berries on each bunch as the Scuppernong. The Thomas grape varies in color, from a reddish purple, where much shaded, to a very deep black where exposed to the sun; the skin is thinner, pulp hardly so large or firm, (though this latter depends, to some extent, on locality,) and a decidedly different taste and smell. It ripens about the same time—in some localities a little earlier. A fine wine can be made from it. Last year I made a little from very ripe grapes, and that to which I added no sugar, I consider quite equal to the Catawba wine made at Cincinnati, while that to which I added one pound of sugar per gallon, several pronounced as good wine as they had tasted in the country, and almost every body makes wine here. The Thomas bears about as much as the Scuppernong—the grapes hardly as large. This grape was discovered about twenty-five years ago, by Mr. Drewry Thomas, in the woods, about four miles above Marion C. H., S. C., and from him has taken its name, and is different from the Black Scuppernong, a seedling from the latter.

"The Flowers grape is more oblong in shape than the above, and when ripe, of a deep black color. The skin is very thick, the pulp very tough, and when the grape is pulled from the bunch, a part of the pulp adheres to the stem. The taste, when fully ripe, is a very agreeable combination of acid and sweet—not near so sweet as either of the above varieties. The bunches of this grape are double and treble the size, having as many as twelve to fifteen berries on each, and is by far the most prolific bearer. From what I have seen and heard, we might safely calculate on fifteen hundred gallons of wine from an acre covered with bearing vines of this grape. I state this from actual measurement of both land and wine. The wine made from it, by the addition of one and a half pounds of sugar to the gallon, is hard to surpass. This grape does not ripen with either of the others in August or September, but begins to change color then, and ripens about the middle of October, after the others are all gone. It never falls from the vine, but remains till long after the first frosts. I have eaten them from the vine in December."

NEW SOUTHERN APPLES

J. VAN BUREN, of Clarkesville, Georgia, sends to the *Southern Cultivator* descriptions as follows of several new varieties of Southern

seedling apples, and writing of the present season's fruit crop in Georgia, says:

"The present fruit crop in Upper Georgia is probably the largest and finest ever grown; the fruit is large, fair, and freer from the depredations of insects than I have ever seen it. The following are all late autumn and winter varieties:

"**LADIES' BLUSH.**—This is one of the largest, finest, and most beautiful apples we have ever raised. Its nativity we are unable to give with any certainty. It is reported to have been disseminated by itinerant grafters, who, from time to time, have perambulated the country, which is all that is known about it. The trees are enormously productive and very beautiful; fruit large to very large, nearly round in form and slightly conical; color, greenish yellow striped and marbled with dark red, with a large patch of russet above the stem; cavity, narrow and deep; stem, three fourths of an inch long, and slender; basin of a medium size; calyx, medium size, with the segments reflexed; flesh, white, and fine grained, juicy, and of a pleasant flavor; is an early winter fruit, and will rank as second quality.

"**GREAT UNKNOWN.**—We received this excellent and beautiful apple, in 1858, from S. McDowell, Esq., of Macon county, North-Carolina, who informs us he did not know where it came from, or from whom he got it. The fruit is of large size, somewhat oblate in form, with a moderate cavity; stem, fleshy and very short; basin, small; calyx, small and closed; color, pale green, marbled with red in the sun; flesh, white, very tender and juicy; flavor, a very mild subacid. Ripens in September, and will keep until Christmas. *Quality best.* The tree is a fine grower and an enormous bearer.

"**CURRY'S RED WINTER.**—This variety hails from Eastern North-Carolina. The size of the fruit is from medium to large, oblong in form, with a small cavity, and slender stem about three fourths of an inch long; basin, large; calyx, large and open; color, a yellow ground, nearly covered with pale red, and spotted with yellow spots and russet specks; flesh, white and solid, keeps well into January; of excellent aromatic subacid flavor; tree, vigorous and very productive; quality of the fruit, nearly *best*.

"**STRAWN'S SEEDLING.**—We are unable to tell from whom we received grafts of this variety. The size of the fruit is from medium to large; form, nearly globular; cavity, small; stem, short and fleshy; basin, very slight and ribbed; calyx, small and closed; color, greenish yellow striped with faint red; flesh, greenish, solid and juicy, of a sharp acid flavor, becoming quite mild in the winter. It is a fine keeper; tree, thrifty and productive; quality of the fruit, very good.

"**GASTON'S SEEDLING.**—From South-Carolina; fruit, very large; form, conical; color, green, with gray russet specks, and a large patch of russet about the stem, which is one

inch in length, slender, and in a large open cavity; basin, contracted and much ribbed; calyx, small and closed; the entire fruit is considerably ribbed; flesh, white, juicy, and of good subacid flavor. Ripens middle of September, and keeps for some two months later. It will rank as second quality.

"WEBB'S WINTER.—Originated in Mississippi. It is of medium size, somewhat oblate in form; color, yellow ground, striped and shaded with red; flesh, yellowish, juicy, solid, and of good flavor. It is one of our best winter varieties, and remains sound until April. Tree, a moderate grower, and bears fair crops; about second quality.

"VAN BUREN.—A seedling of Habersham county, Georgia, and brought into notice and named by C. H. Sutton, Esq. This is another excellent winter variety, keeping sound until April. Size, medium, globular in shape, inclining to conic; color, yellow ground, nearly covered with dark red; flesh, yellow, juicy, and of a high spicy flavor. The tree is vigorous, has stout branches, which twist about in all directions; it bears enormous crops, which is sometimes inclined to the bitter rot. Quality, best.

"INGRAHAM'S WINTER.—Originated in Richmond county, North-Carolina. Size, medium, globular in form, tapering toward the eye; cavity, small; stem, short and fleshy; basin, small; calyx, closed; flesh, white, firm, and juicy; color, yellow ground, shaded with carmine on one side. Ripens about the first of October, and keeps well until January. Tree, a good erect grower, moderately productive. Quality of the fruit, very good."

SUCCESSFUL APPLE ORCHARD IN MARYLAND.—Wilson Marshall, in Cecil county, Maryland, just over the Pennsylvania line, has sixty-five trees on one acre and a half of land. A few years ago he sold, in one season, \$265 worth of apples. His system of management he considers the true one. His orchard was planted on the south side of a slope, and the ground was worked until the trees were ten years old; great care having been exercised in planting the trees, keeping them straight, and well pruned. The ground was well limed and manured, and good crops of grain, potatoes, etc., were obtained whilst the trees were small. He prunes about the first of June, and trims off all suckers and shoots in August. This summer pruning is an advantage, in the fact that the cuts grow over with new bark and are prevented from decaying. To prevent the growing of shoots, the trees should be scored around the butts. Since the trees have become large, the manuring and liming has not been abandoned, but the ground is treated to a liberal coat yearly, and occasionally plowed. By this course of treatment Mr. Marshall's orchard has never entirely failed to bear since the trees were two years planted, whilst orchards in the

same neighborhood, planted about the same time, never bore rightly, and are now almost gone. Mr. Marshall has been selling his early varieties—Townsend's and Caleb's—in Oxford, this last season, at \$2 per bushel.

HORTICULTURAL NOTES FROM THE WEST.

THE members of the Alton (Illinois) Horticultural Society are working horticulturists, and we have been greatly entertained by a perusal of their proceedings. Their discussions always elicit much valuable information, because furnished from actual experience. We transcribe a few notes of most interest.

FIRES IN PEACH ORCHARDS.

S. B. Johnson—I believe we can protect our peaches from frost by building fires in the orchard when there is danger of heavy frost. I kept fire in my orchard for five nights, and during two or three of the cold sleety days; built the fires on the windward side every two or three rods. I have the largest crop of any one in this section, and think I can attribute my success to the fires; build the fires of old logs or any thing that will make a heavy smoke.

Mr. Stewart—I think sawdust to be the best to raise a smoke; have no doubt of the efficacy of smoke to keep off frost.

VISIT TO KNOX FRUIT FARM.

Mr. W. E. Smith, having just returned from a visit to the celebrated Knox Fruit Farm, near Pittsburg, was called upon for a description of the place, method of culture, etc., and gave a very interesting account of what he saw. The place consists of 160 acres; about 80 acres in vines, 30 in strawberries, 10 in raspberries, etc. The most remarkable thing about the place is, that nearly all the work is done by hand power; there is no part of his ground where he runs a cultivator, with the exception of perhaps twenty acres. Mr. Smith, like all others who have visited the grounds of Mr. Knox, has returned with *Jucunda* on the brain, with seven hundred horse-power pressure, saw the berries $5\frac{1}{2}$ inches round; 20 to 24 fill a quart measure when ripe; sell in Pittsburg for fifty cents per quart, beside Wilson's at fifteen cents. In New-York they bring one dollar per quart. Knox thinks "700" is the proper name in more respects than one, as he thinks it will produce, with him, 700 bushels to the acre.

Mr. Knox thinks a heavy coat of manure deforms the berries; manures annually on the surface. Prefers to renew his beds once in four years; mulches light with straw.

WEIGHT OF MUST.

It is the generally received opinion that must from grapes grown near the ground is the

heaviest. The Warsaw Horticultural Society, experimenting upon the weight of must, found that that made from grapes near the top of the trellis was much heavier than that made from those gathered lower or near the ground.

CODLING MOTH AND REMEDIES.

This great pest of the apple orchard is seldom seen in the moth state, and "yet by its fruits" it is known to every apple-grower in the land. Early in the season these moths drop their eggs on the blossom end of the apple. The eggs soon hatch, and the young worm passes to the core of the apple. In a few weeks it attains its growth, and gnawing through the side of the apple, the insect makes its escape after the fruit has fallen to the ground, and creeps into chinks of the bark of trees, or other sheltered places, and spins for itself a cocoon.

The earliest apple-worms, it is said, change to chrysalids immediately after their cocoons are made, and soon thereafter turn to moths, come out, and lay eggs for a second generation of worms. But most of the insects are not changed to moths till the following summer.

Remedies.—Carefully scrape off the loose bark of the apple-trees in the early spring months, thus destroying many chrysalids. Let the hogs and sheep have the run of the orchard. In small inclosures, however, it should be noted that sheep and hogs are sometimes tempted to try the bark of the apple-tree.

When it is inconvenient to let the swine and sheep run in the orchard, let all down fruit be picked up and fed to the hogs daily. Use Dr. Trimble's trap, made by twisting a hay rope and fastening it around the trunk of the tree; under this rope large numbers will be found. Let such birds as are known to aid in the warfare against this insect be encouraged to make their home in your orchard. Of such are believed to be the wren, bluebird, king-bird, sparrow, and common woodpecker. Do all this, and urge your neighbors to join you in your efforts, and ever remember that in these days eternal vigilance is the price of fruit, as well as of liberty.

HALE'S EARLY PEACH CONDEMNED.

S. B. Johnson—Perfectly worthless with me. I am satisfied from experience and testimony that it is worthless in this section.

Hilliard—A complete failure with us.

Rev. Charles Peabody, of St. Louis—Hale's Early is a thrifty grower; healthy tree and foliage; free from disease; bud round like a shot, in contradistinction to other varieties, which is calculated to resist frost; sets its fruit beautifully, and, so far as my observation goes, it is the first to be stung by the curculio, so much so that it is the first to succumb to rot. The first season it is comparatively free from rot, but grows worse each season; whether the rot is superinduced by the sting of the curculio or not, I am

unable to tell. If mine rot as badly in future as in the past, I shall dig them up. When the peach begins to rot, the leaves near by will become diseased, also the twig. I submitted a twig to Mr. Hilgard, of St. Louis, for microscopic examination, and he pronounced the fungus different from that found on other peaches.

E. A. Riehl—My experience differs from Mr. Peabody's. My Hale's Early rotted worse the first year than since. I attribute the rot entirely to the sting of the curculio. I have always found that the crescent preceded the rot.

Dr. Hull—I am of opinion that the fungus is latent in certain varieties, and that when stung it spreads rapidly both to peach and limb. I think, in the great majority of cases, our rot can be attributed to the sting of insects. I think, if the curculio was kept from Hale's Early, it would not rot more than other varieties. I don't recommend any one to plant it; but with my experience I would plant it myself.

The following motion was proposed and carried:

Resolved, That "Hale's Early" is not suited to this section, and should not be planted either for family or market.

EARLY CRAWFORD.

Mr. Peabody—The most delicious peach we have; markets well, and eats well. They will not stand late spring frosts, is the only objection.

THE CURCULIO.

Dr. Hull waxed eloquent over the various appetites of the curculio, and the unmitigated laziness of fruit-growers.

"The statements I have made each year are proving true, 'that as we increase the product the insects increase.' I have traveled considerably this season, and find the peaches generally destroyed, also the apple, pear, and plum. The curculio is sweeping every thing before him; unless we wake up they will consume our substance. Are we to sit idly by and let them breed as lice breed on children, and not raise a finger to prevent them? Nine tenths of the horticulturists have not energy enough to fight them; we must all wake up or they will consume us. If we all will go to work, we can keep them under; but for one man to do it, surrounded by neighbors who will not fight them, is of no use; they will eat him up also. When the thermometer is at 70°, they will fly in on him, and it is impossible to catch them. I once caught sixty and painted them, and carried them to a neighbor's. I caught many of them again on my own place, showing that they will fly. We must look this matter square in the face; we can't dodge it if we would. It has resolved itself down to the simple point of fight or no fruit. I am getting discouraged. Perseverance and energy will save us; nothing else will. I remember the time when, in this neighborhood,

a man would have been kicked out of society if seen with his boots blacked. I hope to see the time when he will meet the same treatment should he harbor curculios.

LARGE FRUIT FARMS.

The farm occupied by Mr. Hyde, near Alton, and owned by L. B. Sidway, of Chicago, consists of 400 acres; 100 acres of which are in fruit, planted as follows: 2000 apple-trees, 3000 pear, (2300 of which are standard,) 1500 peach-trees, and ground prepared for 1000 more next spring; 500 cherry, 3000 grapes, one acre of Lawton blackberries; 600 gooseberries, 600 currants. The place is intended exclusively for fruit, no other farm products being raised except for home consumption.

Mr. Starr, of Monticello, has one of the largest fruit farms in this section; planted as follows: 2800 apple-trees, mostly winter apples; 2000 peach-trees; about 4000 pear; 7000 grape-vines, of which 800 are Catawba, 175 Delaware, the rest of various kinds, including Ives's and Norton's Virginia.

ROOT-PRUNING AS A CURE FOR BLIGHT IN DWARF PEARS.

Dr. Hull—I have frequently made statements that root-pruning was a sure preventive of blight in the pear, and I would now move that this Society appoint a committee, whose duty it shall be to ascertain the facts, either for or against the practice, and report the same.

The President appointed a committee.

D. E. Brown—In my judgment the true theory is this: root-pruning forces the roots to go down deep where there is plenty of moisture. Give a pear-tree deep soil, and the roots will run down as far as the top will up and never blight. The pear-trees on the American Bottom will illustrate this—they have a deep soil and never blight. Mr. Barry has a peach orchard near where we now are; trees planted from one and a half to two feet deep, never blight. From my observation I am fully convinced that the secret of successful pear culture lies in deep rooting.

HONORS DUE TO VIRGINIA.

The Richmond Whig claims high agricultural honors for her sons, in the invention of new implements and modes of the culture of ground.

To Mr. Ryland Rhodes, of Albemarle, is given the credit of the first hill-side plow.

To Mr. Humberstone Skipwith, of Mecklenburg, the credit of the open graduated furrow.

To Mr. Philip Tabb, of Gloucester, the mode of breaking up low grounds in beds of a limited and specified width.

To Commodore Thomas ap Catesby Jones, of Fairfax, the introduction, as early as 1822, of the substratum or subsoil plow.

To Mr. John Murphy, of Westmoreland, the introduction of a threshing machine.

To Mr. Cyrus H. McCormick, of Rockbridge, the invention of the reaper.

Mr. Fielding Lewis, of Charles City, was the pioneer in the use of lime on a large scale as an improver of the soil.

Mr. Edmund Ruffin, of Prince George, father of Edmund, Junior, was the father also, as all Virginia knows, of the renovation of the eastern portion of that State, by teaching the use of marl and green sand.

Mr. Israel Janney, of Loudon, father of the Hon. John Janney, was the first to introduce gypsum, or plaster of Paris.

The first ton of guano brought to Virginia was by Commodore Jones; though guano was introduced into the United States by Commodore Porter, Senior.

Mr. Israel Janney was the first to sow the seed of the red clover in Northern Virginia; and Mr. John G. Mosby, of Curles, in Henrico, (father-in-law of General P. T. Moore,) the first to make trial of it in the tide-water region.

President Madison, while a Member of Congress, sent from Philadelphia to his farm, in Orange county, a small parcel of timothy seed.

Mr. Abraham B. Venable, while a Senator in Congress, likewise sent from Philadelphia to his farm, in Prince Edward, a small parcel of red top or herd's grass.

Mr. John Harness, of Hardy county, was the first to practice the cutting down of Indian corn with its stalk entire, to be shocked in the field, and thus used as the food of cattle.

FORCING-HOUSES.

As a practical and profitable aid to market-gardening, large forcing-houses are coming into good and appreciative use. Their cost may seem an objection; but we have yet to learn where capital can be invested with greater certainty of as good results.

We have lately heard many announce their intention of spending from \$1000 to \$2000, in erecting large hot-houses or forcing-houses, for the sole purpose of raising early vegetables and plants, and for late gardening also. Their facts and figures justify them; and it so happens that we have on hand the result of a trial of this nature at Vineland, New-Jersey. The owner relates his experience as follows:

"My house is 50 by 33 feet, with small boiler-shed on north end. It cost, when completed, about \$1200.

"Took first crop (lettuce) from the beds the first of last March.

"The highest price obtained was 8 cents per head, the lowest 3 cents. Sold 4680 heads, which netted \$211.65, or a little more than 4½ cents per head. The next crop—consisting of lettuce, cabbage, cucumber, and melon plants—was taken off during the month of April and

first part of May. Sold 3120 heads of lettuce, which netted \$95.38; 25,000 cabbage plants, at \$4 per thousand, \$100; cucumber and melon plants, \$25.

"After these crops were removed, I put in a crop of cucumbers, which, rightly managed, would have sold for at least \$100 during the month of June; but through ignorance and inexperience, received only \$5 for them. On account of not having house completed in season, I missed raising a crop of lettuce in the fall, to sell during the month of December. This crop, I suppose, will generally sell for about 4 cents per head in Philadelphia, where all of my lettuce was sold. The furnace consumed eight tons of coal, at \$8 per ton, \$64. Seed cost about \$6. Interest on \$1200 invested in building, at 12 per cent, \$144. This was all the expense I was at, for I did nearly all the work myself, on stormy days and evenings, when I would have done nothing else.

"The account may be stated briefly thus:

<i>Dr.</i>		
March 1.	Sold 4680 heads of lettuce,.....	\$211 65
April	" 3120 ".....	95 38
	" 25,000 cabbage plants,.....	100 00
	" Cucumber and melon plants,.....	25 00
June	" Early cucumbers,.....	5 00
Total sales,.....		\$437 03
<i>Cr.</i>		
Eight tons coal,.....		\$64 00
Seed,.....		6 00
Interest on \$1200, at 12 per cent,.....		144 00
Total,.....		\$214 00
Deducted from,.....		437 03
Leaves as profit,.....		\$223 03

"I had no practical knowledge of this business before engaging in it; but I took *Gardening for Profit* as my guide, followed it as faithfully as I could, and used the best common sense I possessed. Of course, with one year's experience, I expect to do better this winter than I did last; and I confidently believe that I shall each season clear \$500 from the house."

The economical use of hot-beds, too, is a great point. We remember an instance of a trucker, near Milford, Delaware, who has some hot-beds under glass, in which he started his tomatoes last season. In two of these, 100 by 5 feet each, on the "spent" manure, he sowed lettuce in October last. From this he has shipped to the New-York market, this winter, 25 barrels, averaging 140 heads per barrel. Selling for 10 cents per head, it realized him the neat little sum of \$350.

This plan of *extra seasonable* gardening may be carried on in infinite ways, and it is fair to presume, from the nature of the means and methods of production, there will never be any serious changes in price, and will always remain a permanently profitable occupation.

A FARMER in Derbyshire, England, lately took a prize at a fair on three cabbages that averaged 72½ pounds.

PROTECTION FROM COLD WINDS.

MR. EDITOR: Mr. Elliott more than once has urged the importance of close planting, and the use of evergreens to secure protection from cold winds. The advantage of evergreen screens, on the windward borders of orchards, I believe every one who has known their use will admit; but I fear few planters will introduce an occasional evergreen in place of a fruit-tree throughout the orchard, as he advises, until the pecuniary advantage of such a course is more fully established.

But as to planting at half the usual distances—ten by ten feet for standard pears, and ten by fifteen feet for standard apples—in defiance of the catalogues of the nurserymen and the standard authorities generally, how many will advise it either as a general rule or as one to apply in special cases? That Mr. Elliott carries this theory of his into practice, I have had ocular evidence; but his location at East-Rockport, on the shore of Lake Erie, is one peculiarly exposed to strong winds. Yet, owing to the disappearance of our forests, how few sections there are in our country not similarly exposed.

I incline to favor this idea, for the injurious effect of winds on the trees of a full-grown, closely-planted orchard must be inconceivable as compared with that on scattering trees; and this favorable condition may be reached in a few years by close planting. As the trees crowd each other, some may be removed from time to time, while the fruit, such as may already have borne, will have paid for the extra expense and care many times over. A neighbor of mine, one of the most extensive planters of apples in this valley of Lake Champlain, pursued a similar plan with his orchards. His only motive, I think, was to obtain a greater yield of fruit while his trees were young. He had expressed himself pleased with the result.

CHARLOTTE, VT., Dec. 4, 1868.

W. C. FLAGG, of Alton, Illinois, who has extensive orchards on his 1200 acre farm, and is well known as one of the best cultivators of the West, grubbs up his old or superannuated trees, and burns the brush in the holes. According to the report of the Horticultural Society of that place, he has several hundred young apple-trees planted in such holes, which, for vigor of growth and health of foliage, are equal to any grown on new land. The success is attributed both to burning the earth and to the ashes.

PROFITABLE FRUIT-GROWING.—Nathan Cope, living about two miles north of East Fairfield, in Columbiana county, Ohio, has sold one thousand barrels of apples from his orchard this year at \$3 per barrel, and has about one thousand barrels still on hand. His orchard consists of about eight acres.

CLOSE PLANTING OF FRUIT-TREES.

MR. EDITOR: I have for many years been convinced that a large amount of land has been wasted in the occupancy of orchards where trees stand from thirty to forty-five feet distant from each other. Some varieties of apple-trees require more room than others. The large Romanite, on good soil, is a rapid grower, and each tree will cover a very considerable space; but in ordinary soils this variety, and all others, will bear well, and be thrifty when planted from fifteen by fifteen feet to eighteen by eighteen feet. You, Mr. Editor, may smile at the idea; but in good earnest I say that *fruit-trees seem to enjoy each other's society*. We have around us here, in several localities, walnut, hickory, persimmon, and plum groves; and I have noticed that in those groves or clumps there are every year many trees with heavy crops of fruit on them.

In the walnut groves, the ground is covered with a long, thin, tender, blue grass. In the others, the leaves keep the grass from growing, and the soil is usually loose and of a mossy feel to the tread. So would it be in orchards, if the trees stood closely enough together to entirely shade the earth beneath and between them.

I have seventy fruit-trees, standing in a very small area, around my residence. A good deal of the front yard is taken up with cedar, pine, ash, horse-chestnut, and maple trees. My plum and pear trees bear profusely; and I expect the peach, cherry, quince, persimmon, crab, and apple to yield good crops when old enough.

In addition to the trees, I find an abundance of room for grape-vines, currant and gooseberry bushes, also raspberry, blackberry, and strawberry patches, and flower-beds.

The idea that trees must have a great deal of room has deterred a great many dwellers in town and city suburbs from planting them; thus depriving themselves and families from the possession and enjoyment of some of life's most precious blessings.

Your column is doing a good work; and, if you can induce householders to plant where they ought to plant, live as they ought to live, and make their homes as beautiful and as happy as they so easily can be made, you will be, to no small extent, the benefactor of the race.

JOHN R. WOODS.

WINCHESTER, ILL., Dec. 23, 1868.

THE WAY TO SET OUT APPLE-TREES.

DANIEL HARRINGTON, Tionesta, Forest county, Pennsylvania, writes:

"I would make a few remarks regarding the decay and barrenness of apple-trees. In the spring of 1840, I set out an orchard of apple-trees in the common way, by digging a small hole just large enough to hold the roots of the young tree, then putting in the tree and filling

up the hole around it. The orchard was set out on creek bottom, sandy loam, and cultivated sometimes in corn and oats, with intervals of seeding down to clover and timothy. About half are now dead; of the balance, some bear every year and some every other year. I am satisfied that the reason of trees decaying and not bearing, is found in the fault of the first setting out; for instance, when young trees are removed from the nursery, they are taken out of a soil highly cultivated and manured; they are then set out in the usual way by putting the roots down in the subsoil, a soil destitute of all vegetable matter. Is there any wonder that the tree does not thrive, or that one half of them die? About six years ago a neighbor of mine set out an orchard of grafted trees from the Rochester Nursery, State of New-York, as follows: He put them on high ground, and dug holes three feet in diameter and two feet deep. He filled the holes with stones broken with a sledge, giving a layer one foot or eight inches deep. He then covered the stones with the soil taken from the holes, mixed with compost or well-rotted barn-yard manure, and set in the trees on this surface, and filled up around the tree with the best sod that he could get, putting the subsoil as far from the tree as possible. Those trees are the cleanest, thriftiest trees, and grow the fastest of any in the neighborhood, although they have had no attention in the way of washes or manures since they were set out. The reason, is, that after a heavy rain, or the melting of the snow in the spring, the water drains off through the stones, leaving the roots free from cold water; the roots, also, do not go down into the subsoil, which is destitute of all vegetable matter. I have myself set out some twenty-five apple-trees in this way, which, although too young to bear, are growing very nicely. It is a great deal of extra labor to set out trees in this manner, but I believe it will pay in the end, because the trees grow so much faster, and are not so liable to be attacked by insects."

CULTIVATING ORCHARDS.—There is an excellent example of the benefit resulting from cultivating apple orchards, in the case of W. Lombard, of Augusta, Maine, who has some one hundred and seventy trees, mostly old, well cultivated, the soil stirred about as far as the limbs extend, and the ground mulched with refuse straw, potato tops, corn-stalks, etc. One Tallman Sweet Tree yielded six barrels, which, at \$5 per barrel, brought \$30. The whole orchard, in one year, yielded \$613 in fruit sold; and the present, not a bearing year, \$200.

THE Commissioner of Agriculture says, that if our soil were cultivated one inch deeper, \$150,000,000 would be added to the wealth of the country.



EDITORIAL GOSSIP ABOUT AGRICULTURAL JOURNALS.

THE new year witnesses a remarkable change in nearly all our agricultural exchanges; and, it must be admitted, uniformly for the better. Agricultural journals are now admitted to be, in their scope and circulation, the most useful, practical, and influential of all issues of the newspaper press; and it is gratifying to witness the efforts that their proprietors are making for public appreciation, and, in return, how freely the public are bestowing their patronage.

Thirty years ago, there were but few agricultural journals in the country, and not one had over five thousand circulation. Now, they are abundant on every hand, succeeding well, and increasing from year to year.

Many new journals have been launched upon the sea of literary life during the past few months, the most prominent of which is *Hearth and Home*, of New-York. The appearance of this journal, so highly indorsed, and bearing the names of editors high in public estimation, was a guarantee that from the outset it would be successful; and it is gratifying to learn that it meets the expectation of its friends. It is, perhaps, more popular for its family reading than on account of its agricultural or horticultural character; and yet, in these last points, it bears the same relative standing to agricultural journals that the *Independent* does among the religious—prominent specially because of its contributors. It lacks that indefinable sweetness and juiciness which readers observe in many other papers distinguished for their practical character, and is likely to become too heavy unless relieved sooner or later with short, pithy articles and paragraphs, interspersed here and there among the other heavier matter. Nowadays

long articles are not read, and short paragraphs are an absolute necessity. Nevertheless, *Hearth and Home* is a desirable acquisition to both agricultural and family literature.

The Agriculturist appears with a neat and tasteful cover, which increases its ornamental appearance.

The Country Gentleman, the best of all agricultural weeklies in America, still continues excellent, and is increasing in circulation and popularity.

The Ohio Farmer puts on a new dress, hoping to be more attractive; but really more homely than ever. We always liked the eight-page form it possessed a year ago; if it possessed it now, it would be far more acceptable. The editor gets off many a good thing which "hits" every time; but he is behind the age on typographical improvement.

The Prairie Farmer did just the right thing when it emancipated itself from the thralldom of its former size and put itself into a new dress. It has increased also in literary influence and efficiency with the change, and is one of the best of our exchanges.

Brother Moore has surprised the world with his tremendous sixteen-page issue of *The Rural New-Yorker*. We are frank in saying that for variety as well as abundance of reading for the family, and most reasonable price, it is unequaled in the world.

The Wisconsin Farmer turns a somersault and comes out again as the *Western Farmer*, with new and handsome "fixings," making a wonderful improvement. May it progress rapidly!

The Western Rural jogs along as good as ever. We always liked it—a good, sound, practical paper.

The Gardener's Monthly astonished the world

last December with a colored cut of a "mush-room." If the *G. M.* never gets above "toad-stools," we fear it will not soar very high. All joking aside, we like the spirit of the editorial work of the journal. Its editor is a thoroughly capable man, and thousands of genuine friends are ready to thank him for valuable suggestions.

The old, old *Hovey's Magazine of Horticulture*—the first this country ever possessed—has, in surrendering itself into other hands, spoiled an honorable record. That a journal of so honorable a prestige should descend into the arms of one who will toss it as in a blanket, merely to puff the merits of his pet, and lift it into renown, is a thing to be regretted. Better that it should have died a natural death than to be used for mercenary purposes.

We do not like to make unfavorable criticisms, for we have no malice to gratify; yet when we take up the *American Journal of Horticulture*, for January, and expect to be entertained with some useful information about strawberries, varieties suitable for planting, etc., and find a page and a half devoted to its own exclusive premium, casting all others into the shade; when we see agricultural journals throughout the country induced to illustrate this strawberry as a great horticultural acquisition when it will not do them or their readers any good—for it can not be easily or generally procured; to see journals humbugged into a free advertisement of the premiums of a rival; when such a journal claims a circulation of twenty thousand, which it has not got save one month in the year; to see it claim a circulation larger than all others combined, when we learn from reliable authority that its *paying-list* is not as large as that of *THE HORTICULTURIST*; when it coaxes advertising under false pretenses; torments a man to death with circulars and letters of solicitation; puffs any thing without regard to its merits or consistency; puffs itself; fills up its pages with advertisements of its own books and premiums; endeavors unworthily to create the impression that it is the best trade advertising medium of the horticultural community; when it takes advertisements at any rate; continues them to fill up its pages, etc., it becomes a nuisance deserving exposure by some respectable journal.

We bought the first year's numbers of it and read them with much hope. Our feelings were favorable, and we considered it an advance in horticultural literature; but *now*, "good Lord, deliver us!"

To this day, not a man knows who is the real or responsible editor of the *American Journal of Horticulture*. It is a fair question to ask, whether in these days, when all men should be honest, is it right to support a journal of that character which is ashamed to confess its editor?

The world is wide enough and free enough for all. We have no objection to a dozen or a hundred of the same character; but if they ever are started, let them remember two things: 1st.

Be respectable. 2d. Never claim a merit which they have not got.

As to *THE HORTICULTURIST*, let the future show the result of the present proprietors' labor to make it *what it ought to be*, deserving all the sympathy and patronage its character entitles it to, and through the honorable agencies and use of "*work, brains, and greenbacks*," to increase its influence and become of greater success.

Meanwhile, the improvements already made show that the tide is carrying it along into popularity; and hearty congratulations are free and abundant.

CULTURE OF THE SOIL FOR WOMEN.

We have often repeated the assertion that, if a woman has only a chance, it would be a pleasure to cultivate fruits or flowers for a livelihood, sooner than to be held in irredeemable bondage to the needle. Still women are like sheep—hard to get out of the old paths, and to follow new leaders. Now and then instances come to our notice where women have made a forcible emancipation of themselves from city life, and hurried into the country with some rural occupation suitable for their tastes. Vineland, New-Jersey, contains many such cases. A maiden lady of forty years went there, who had been a school-teacher, in Massachusetts, for sixteen years. She got weary, as she said, of being a slave for others; and thinking a farmer's life more to her heart, came to Vineland and bought ten acres. She has been there three years, and has five acres in good bearing condition. All the work, except the clearing of the land, has been done by herself and a boy thirteen years old; and from being weak she has become strong and healthy.

There is another lady, same age, formerly educated as a physician; but as her health gave way, she bought ten acres there, and, with the assistance of a boy only, she has been able to cultivate five acres nicely. Her health also returned to her.

There are said to be quite a good many widows there, who take all the care of large gardens, and make them literally abound in delicious fruits and beautiful flowers. One lady was observed one week-day painting her house, and the next Sunday filling the pulpit, in the absence of the regular minister, acceptably.

Last summer, in our editorial travels up and down the Erie railroad, we saw a corn-field, plowed, harrowed, planted, cultivated, and gathered, the whole work, from beginning to end, done by three sisters, and most excellent it was too.

We have known of many a happy husking-bee in which the ladies were the busiest helpers.

Yet in the garden, in the culture of fruits and vegetables, how suitable a field for woman's hands and woman's labor! The work is light, pleasant, a relief to in-door cares, and healthful;

puts new bloom on the cheek, and gives her a place to call her own—her delight and pride.

How well women can manage large farms remains yet to be seen. We have known a few instances of success of this nature; but the limit to woman's activity can be bounded between the hedge-rows of a few acres. Better do a little well, than attempt to grasp too much and fail.

LITTLE BROWN HANDS.

THEY drive home the cows from the pasture,

Up through the long shady lane,
Where the quail whistles loud in the wheat-fields,

That are yellow with ripening grain.

They find, in the thick waving grasses,

Where the scarlet-lipped strawberry grows;

They gather the earliest snow-drops,

And the first crimson buds of the rose.

They toss the new hay in the meadow;

They gather the elder-bloom white;

They find where the dusky grapes purple

In the soft-tinted October light.

They know where the apples hang ripest,

And are sweeter than Italy wines;

They know where the fruit hangs the thickest

On the long, thorny blackberry vines.

They gather the delicate sea-weeds,

And build tiny castles of sand;

They pick up the beautiful sea-shells—

Fairy barks that have drifted to land.

They wave from the tall, rocking tree-tops,

Where the oriole's hammock-nest swings,

And at night-time are folded in slumber

By a song that a fond mother sings.

Those who toil bravely are strongest;

The humble and poor become great;

And from those brown-handed children

Shall grow mighty rulers of state.

The pen of the author and statesman—

The noble and wise of the land—

The sword and the chisel and palette,

Shall be held in the little brown hand.

CHINESE GARDENING.

THE Chinese have always been famous for their curious systems of gardening, and especially their propensity to dwarf every species of tree or plant into an almost diminutive space.

For patient industry they have no equals. Any thing which needs great labor and but little skill, they can do better than all the world besides; if it be the digging of innumerable miles of canals, or the building of great walls that stretch half-way across a continent, they can do it. There are no more careful, thrifty, economical tillers of the soil than they; even the steepest hill-sides are redeemed from waste by narrow terraces; and their broader fields are kept as tidily as gardens. They spare no labor nor economy in enriching the soil, and work

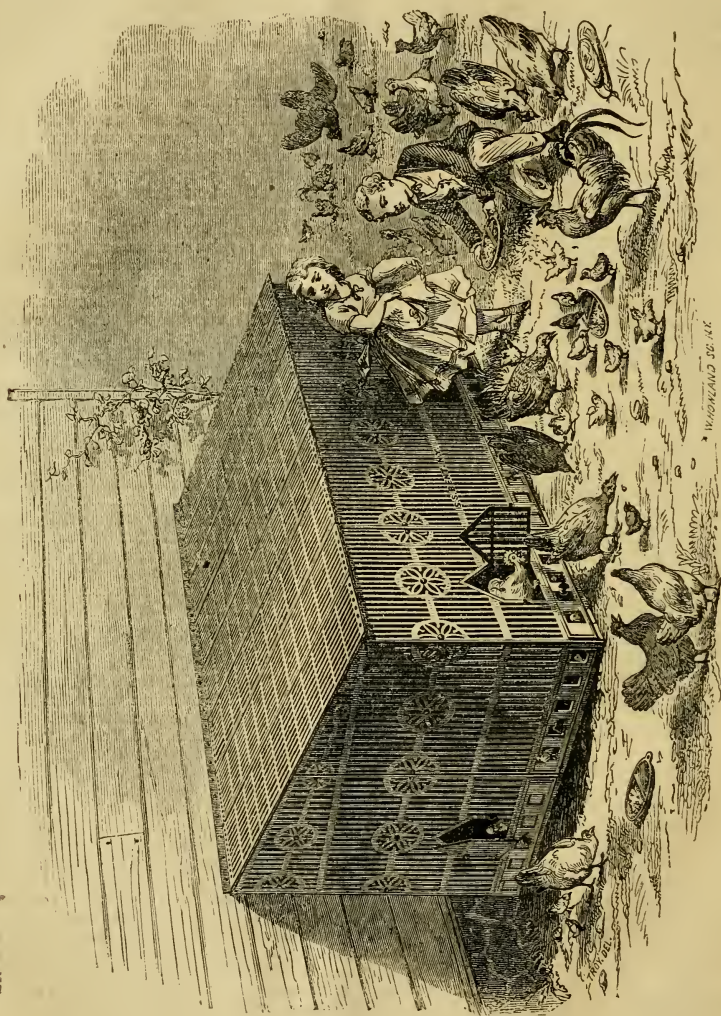
hour after hour to irrigate it, carrying the water, often for considerable distances, in buckets swung across their shoulders. They use very little agricultural machinery, and all their instruments are of the rudest sort. What they depend on is the ceaseless drudgery of patient manual labor; and by this alone the agricultural miracle which makes all China one great garden has been wrought.

Californians have found them very useful laborers, and almost every one now knows how cheaply they live, how neat and cleanly they are in the care of their bodies, how steadily and persistently they keep at work; not very strong, nor very skillful, nor very quick, but quiet and steady and incessant.

They have a curious way of dwarfing their trees, by a regular systematic process followed year after year. If a Chinaman could dwarf a sixty-foot tree into six inches, not even the office of Grand Emperor could give him half the pleasure that little marvel does. And so successful are they, that they can keep miniature pines and oaks in flower-pots for half a century.

Their method is as follows:

They aim first and last at the seat of vigorous growth, endeavoring to weaken it as much as may be consistent with the preservation of life. They begin at the beginning. Take a young plant—say a seedling or a cutting of a cedar—when only two or three inches high, cut off its tap-roots as soon as it has other roots enough to live upon, and replant it in a shallow earthen pot or pan. The end of the tap-root is generally made to rest on a stone within it. Alluvial clay is then put into the pot, much of it in bits the size of beans, and just enough in kind and quantity to furnish a scanty nourishment to the plant. Water enough is given to keep it in growth, but not enough to excite a vigorous habit. So, likewise, in the application of light and heat. As the Chinese pride themselves on the shapes of their miniature trees, they use strings, wires, and pegs, and various other mechanical contrivances, to promote symmetry of habit, or to fashion their pets into odd fancy figures. Thus, by the use of very shallow pots, the growth of the tap-root is out of the question; by the use of poor soil and little water, any strong growth is prevented. Then, too, the top and side roots, being within easy reach of the gardener, are shortened by his pruning-knife or seared with his hot iron. So the little tree, finding itself headed on every side, gives up the idea of strong growth, asking only for life, and just life enough to look well. Accordingly, each new set of leaves becomes more and more stunted, and buds and root-sets are diminished in proportion, and at length a balance is established between every part of the tree, making it a dwarf in all respects. In some kinds of trees this end is reached in three or four years; in others ten or fifteen years are necessary. Such is fancy horticulture among the Celestials.



Poultry-Houses.

THE question is frequently asked, What is the best kind of poultry-house? and the answer given will be as different as the individuals who give them are different.

One man is satisfied that poultry thrive well enough with bestowing the very smallest amount of attention on the hen-house. Frequently they assign for this purpose any chance corner in a dilapidated building or exposed situation; such a one as we would naturally call, from its space and structure, entirely unfit as a lodging-place for fowls.

These poultry fanciers have occasion, sooner or later, to grumble at the slender revenue from their fowls; and if, in footing up debit and credit, they find their eggs have cost one, two, or three cents apiece, how natural to blame the unfortunate hens, who are innocent and unknowing sufferers?

The old-fashioned barn-yard fowls, who pick up their living wherever they can get it—also hardened and stunted during the severe experience of their chickenhood—can, of course, bear more severe usage than those breeds of more careful descent; but whether fowls are of low degree or high pedigree, good generous treatment never fails to produce amply pleasing results. By paying close attention to the needs of poultry, it will be found that all sorts of poultry are much the better for comfortable roosts in roomy, well-roofed houses.

Perhaps nothing has a more unfavorable effect than a leaky roof and a penetrating draught.

It is absolutely necessary that a poultry-house should be so situated as to command an abundance of fresh air. If the house is of stone or brick, ventilation can be secured by raising one or more tiles or slates high enough to save the fowls from the direct current of colder air.

If the house be of wood, as is the general rule, and the roof be also of wood or of felt, the same object can be gained by making slight crevices between the boards, or by holes bored through the door. The door itself may be a loose fit; by this means sufficient precaution is taken against the danger of cold currents of air rushing across the heads of the fowls.

In a house made of boards overlapping one another, the roof may be perfectly tight, and a plentiful supply of fresh air may be obtained from the effect of the sun's rays on the side boarding and doors.

Hence it is that most experienced poultry fanciers prefer wooden houses to all others, and certainly in warm weather they merit the preference awarded to them; while in winter, any too open part can be stopped up with straw or hay. Ventilation is a very simple and easy matter where small movable houses are used, and where they are not confined to one fixed

place, as is often the case when many are congregated close together.

Earthen floors are the best; but to remove from the fowls all temptation to scrape them up, they should be beaten hard, well watered on the surface, and then smoothed with a trowel.

Every morning the houses should be thoroughly cleaned, and the floor sprinkled with ashes (wood ashes if possible) twice a week. Dry sand also should be used freely. The inside of the houses, especially the roosts, should be washed with lime every six months, perhaps oftener, and the outer door kept open all day, except in stormy weather.

See that the houses are not overcrowded; give such food as your stock seems to thrive on best, changing it occasionally; never withhold sound grain as a portion of the daily fare, and, as a general rule, let no meal be very soft, especially in the case of chickens.

If these simple precautions are taken, success will be deserved, and will be assuredly met with.

IRON CHICKEN-COOPS.

WE have been shown some excellent designs for iron chicken-coops, by Samuel S. Bent, of this city, which possess many novel and useful features.

Fig. 1 represents a square chicken-coop built in sections. The front, as in the specimen shown, is composed of four iron sections jointed together, the sides of two sections, and the top eight. The convenience of this arrangement consists in the fact that the sections being already cast, any number of sections can be taken, and any size of poultry-house can be made at short notice—long or short, of any height or width. The back is usually of wood.

Figs. 2 and 3 represent the front and rear sections of a smaller portable chicken-coop; these, too, are already cast and ready to be used at any time. The ends only are needed, for the tops are made of wood, as also the floors. The width of these iron frames is two feet; the height two feet six inches. By the use of longer or shorter boards, the poultry-house may be made of any length; and if a double coop is desired, a wood partition may be inserted in the middle, dividing the frame into two distinct houses, each with a door. The advantages claimed for iron coops are, the prevention of losses experienced in raising chickens, by rats, cats, weasels, etc. It will be observed that there are little doors at the bottom, which are to be closed at night and opened in the morning by slides. Single coops are two feet six inches long; and double coops five feet in length. We are indebted to Mr. Bent for the accompanying plans, and will present, in a succeeding number, other excellent illustrations.

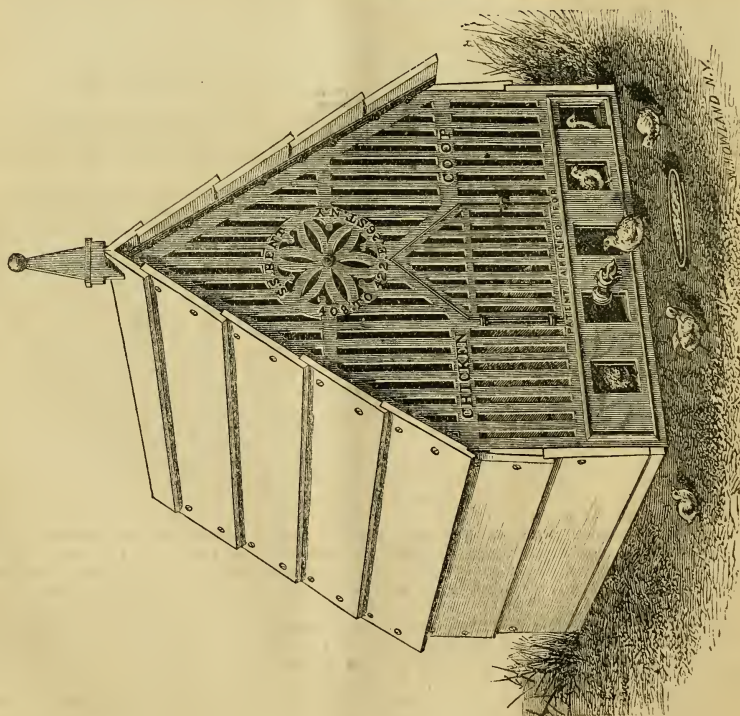


Fig. 2. Front View of Iron Chicken Coop.

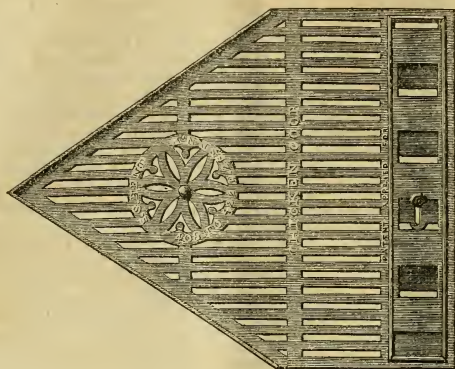


Fig. 3. Rear View.



Practical Hints to Fruit-Growers.

BY H. T. WILLIAMS.

No. 3.—How to plant Fruit-Trees.

EXPERIENCED fruit-growers and horticulturists need little information from public journals as to the proper planting of their fruit-trees, but every year witnesses a large number of new beginners who know very little on these points, and must take sound advice or inevitably meet with disappointment.

There is a large class of farmers, also, with whom the cultivation of a few fruit-trees is a side issue, yet, notwithstanding the progress of horticulture and the evidences of general agricultural improvement everywhere around us, there still remains a lamentable ignorance and neglect in the planting and care of fruit-trees.

It seems a very simple thing to plant a tree, and almost every farmer thinks he knows how to do it, but it is seldom well done. It is a more important operation than is generally supposed, for the life of the tree and all its future health and fruitfulness are directly dependent upon it. Right planting is the foundation and corner-stone of all successful horticulture; for if a man commences his life and experience by building up from this small element, the probabilities are that he will be sure to understand and master thoroughly the knowledge of all the subsequent arts to produce vigorous trees and abundance of fruit.

More than one half of all the fruit-trees planted in this country die or fail to yield fruit, for the simple reason that they are not properly cared for. Fruit culture means something more than leaving a tree to take care of itself; it demands care, watchfulness, patience, hard work, strong efforts, and above all, intelligence and forethought.

It often happens that the very same man who bestows most care on his family, supplying them with every comfort and means of education and taste, or providing for the well-being of his cattle and dumb animals, will still neglect his fruit-trees, do the very thing he ought not to have done, and neglect all those precautions which should be taken to make his orchard eminently successful.

Not long since there lived an enterprising farmer near Boston, who bought one hundred fruit-trees to plant for an orchard. Wishing to have them live and thrive well, he hired a professional gardener to come and plant them. In the morning he went away, leaving the gardener at work, thinking he would make rapid progress and do every thing well. But when evening came and the farmer returned, there stood only *ten* trees planted out of the entire one hundred. Sadly disappointed at the prospect of such

slow work, and with feelings of anger that it was done at the high price of \$2 per day, he dismissed the gardener, and concluded that he and his "hired man" could do it fully as well in much less time, and at one half the expense. So it was done. Mark the result.

Ten years afterward, the same farmer was at work one day in the same field, when a gentleman just riding past stopped short, and got out to examine the trees. After looking attentively at the orchard a few moments, he asked the farmer "why all the orchard did not look as well as the first row of trees? That row is three times as large and thrifty, while the rest of the orchard is small and dwarfish in appearance." The farmer replied, "They were all planted at the same time; those ten, which are so large, by a gardener; the rest by myself and my hired man. I thought the gardener too slow and charged too much, and dismissed him; but if I had paid him any thing he asked, and let him plant all the trees, any one of them now would alone have returned the entire cost."

The gentleman smiled and observed, "*I am that gardener*, and I thought you would find out sooner or later that it required more knowledge to plant out an *apple-tree* than a *post*."

The experience of that man is identical with thousands of others, but a more salutary lesson can be learned from the wonderful efforts of an amateur Wisconsin fruit-grower.

Late in the month of May, this remarkable man harnessed up his team, and went to a neighboring nursery. The sun shone bright, and the wind was blowing a stiff breeze. He purchased his trees cheap, for every other buyer had picked them over, and he piled them into his wagon. No regard was paid to the adaptation of varieties to his locality. There were his fifty trees, and that was all he wanted. No covering was placed over the roots. Of course they were badly dried. The stems and branches were seriously barked by the wagon-box in jolting over a rough road.

Arriving at home, he found the cattle had broken out and must be hunted up. In the morning the fence had to be repaired. At last, in the forenoon the trees were reached, having stood out all night exposed to the wind. The wagon was driven around the field, and the trees dropped where they were wanted. In the course of the day small holes were dug, and the trees, with cramped roots, were tramped into them, and the branches left at full length.

The first year one third died. The next winter the rabbits barked a number. Two or three that did not get a fair start died. The next season suckers were allowed to grow to keep off the rabbits. Four years from planting, one half of the trees had died. The orchard was then seeded down to grass, and the seventh year only a dozen remained. The next winter was severe, and left only three trees unharmed. These were without labels, and of unknown varieties, but proved a worthless fruit.

Behold in the death and failure of these fifty trees a monumentary evidence of man's neglect and ignorance!

But how was it with one of his neighbors?

Going to a reliable nursery, he selected thrifty trees, with a choice of such varieties as were known to be hardy in latitudes north of him. He carefully protected their roots from drying, shortened in the tops to compare with the abridged roots, and planted them carefully in a well-plowed, mellow soil. He kept the ground in cultivation, and carefully guarded his trees from insects and disease. To-day he has a fine orchard, yielding several hundred bushels yearly.

I can repeat many instances like this, and I can again point out thousands of orchards which have proved failures from want of practical knowledge and careful thought. It has seemed to me reasonable to throw out a few hints, in a condensed form, which shall prove a help to beginners, for there are many every year, and also to assist those who are among the afflicted already.

1. Plant *young* trees, both in your orchards and gardens. They cost less in actual price, in freight, and in planting than older trees. They are surer to grow, have more and better small fibrous roots, will adapt themselves quicker to the soil and location, and with equal watching and care will grow so vigorously as to excel older trees both in abundance of fruit, size, health, and earliness of bearing. Never choose standard apples, pears, plums, or cherries more than two years old, and dwarf trees one year old.

After years of experience, growers of fruit on an extensive scale can not be induced to plant trees older than one or two years. Farmers will see the double advantage of less price and less trouble in planting young trees.

2. Be careful in your choice of *soils*. A sandy soil is leachy, contains no moisture, and is liable to drought. A very heavy, clayey soil is directly the opposite—too wet, tough, and adhesive; few or no fruit-trees do well in it. A gravelly soil is hardly more desirable; but a deep, loamy, or alluvial soil may always form a good choice.

3. Let the land be well *drained*. Never plant where there is the remotest chance for water to settle and stand near the surface. It will surely ruin the tree and blight all hope for fruit. A few dollars spent in draining will be like the Scripture maxim, "It will return after many days."

4. When you are ready to plant, hitch up two teams. Let the first plow to the depth of one foot, a strip six feet or more wide. Let the second follow with the subsoil lifter, and stir to the depth of two feet; cross-plow in the same manner a strip of same width; then dig holes one foot or more deep, three feet in diameter; place the tree at the same depth as when removed from its former place; replace the earth, taking care not to bend or cram the rootlets of the tree, and always allow abundance of lateral room for the growth of the roots. Many inexperienced persons lose their trees from too deep setting. *No tree should be set lower in the earth than its original position.*

Where the ground has not been plowed and subsoiled, the planter must invariably dig his holes two feet deep and four or more wide.

5. Mix with the earth, before it is returned to the hole and is placed around the roots of the tree, a good compost of ashes, well-rotted stable manure, and chip manure mixed together. Leaf-mould, muck, and lime may all form part of the compost. Let a large portion of the compost be placed beneath but not in contact with the roots of the tree, and the remainder on the surface of the ground, to act as a mulch. The quantity will vary, according to the size of the tree, from a half-bushel upward.

The effect will be most marked, and the growth astonishing.

6. If any of the roots are mutilated or bruised, pare them off with a sharp knife to prevent decay; cut back on the under side until you reach the sound wood. Nearly all trees that come from the nurseries have lost some of their roots, and their branches must be shortened in the same proportion. At the time of planting, prune all branches back to three or four buds from the base of each branch.

7. All large trees will require *stakes*; young trees firmly set will not. Where stakes are used, fasten them in the ground first, then plant the tree by its side, and carefully tie it, so that it will not chafe.

8. *Mulching* is almost indispensable. The earth should rise like a small mound toward the trunk of the tree, and over this should be a mulch two inches deep of hay, half-decomposed manure, sawdust, or tan-bark. It not only saves the labor of cultivation, but, prevents the moisture of the soil from evaporation, renders the temperature more uniform, and prevents injurious effects from frost. The mulch should extend beyond the tips of the roots.

9. Opinions differ as to choice of spring or fall for planting. If planted in the autumn, the earth gets fully settled around the trees, and the next spring finds them ready to start and grow with vigor.

Equally good results are, however, obtained by careful spring planting. Early purchases of trees are absolutely necessary, for frequently unscrupulous or careless dealers do not hesitate to dig up trees from the nursery even after buds have commenced their growth; to say that these prove a loss is to repeat a story of old and costly experience.

10. *Cultivate the ground carefully*; never allow grain crops, nor root crops of an injurious nature, to grow in the field. Neither allow grass nor weeds. The cultivation and manuring incident upon the growing of some kind of judicious crop between the rows, as potatoes, or beets, or turnips, will always prove a benefit. If no crop is grown, go through frequently with the cultivator, and stir the soil two or three inches deep. A thorough mellow stirring of the soil is nearly as good as manure.

11. If trees are dried by too long carriage, they may be restored by immersion for a day or two in water or thick mud.

12. Use no water in planting ; it tends to harden and bake the surface of the earth, and has always proved injurious. Mulching will supply all the moisture necessary.

13. When you buy your trees, patronize no traveling swindlers, but obtain them from some reliable nursery. If possible, visit it, and make your own choice of trees, and label them with your name.

14. Examine the branches and roots carefully and continually for insects, worms, or borers. Do it at least three times each growing season.

15. Let the orchard be protected from all prevailing cold winds, whether from east, west, or north.

Lastly, *careful pruning* is essential, which means no Herodian slaughter of innocent sufferers by lopping off large, healthy, vigorous branches, and a general slashing, but does mean the cutting out of all dead or diseased branches and roots, and only such smaller shoots and branches as appear to prevent the free access of sun and air to all parts of the head of the tree.

If farmers would only cultivate their trees as well as their corn, they would have little occasion to utter complaints against poor orchards or poor fruit. How carefully does the possessor of a nasty Connecticut tobacco-patch take care of it ! He hoes it every week during the season ; he is up early in the morning looking after those hateful worms ; but right there by his side stands a fruit-tree, the noblest sight upon his farm, a gift from Providence, which might be a cheer and a blessing to himself and little ones, but is left to die of disease and neglect because it was not made like man, and could not take care of itself.

An hour's time and a dollar's worth of manure will often cause a barren tree to put forth renewed energy, giving principal and compound interest back again. But how much better will it be if all will only *start right* and *keep right* ; how little cause there will be for censure, and how much more comfort !

Grape-Growing in New-Jersey.

BY WILLIAM PARRY.



GRAPE-GROWING in West New-Jersey has been attended with various results for many years past, which has led to the conclusion that it is not a reliable crop, and some have maintained that our soil and climate were not well adapted to it. But the occasional heavy crops which have been produced are sufficient to prove that the defect is not in the soil or climate, but in the want of a proper system of pruning and manuring. We find no difficulty in growing one or two large crops of grapes, and some more inferior ones, when the vines, being exhausted, run out, are neglected, and their culture abandoned.

A few sample vineyards may serve to illustrate this matter. About thirty years since, Henry M. Zollicoffer, of Philadelphia, had planted, in Camden county, New-Jersey, eight or ten acres of vineyard on light sandy soil, good truck land, quick in its action to yield up what nourishment it contained to the growing crop, but soon reduced unless constantly supplied with manure. The vines grew well and produced one full crop of fruit ; fine large bunches, well developed and ripened, which were greatly admired by visitors and all who saw them.

That large crop of grapes took most of the strength from the ground, so that there was but a poor growth of wood for a future crop. Next year, there were grapes enough set upon the vines, but about the time they should have ripened they commenced rotting, showing clearly there was something wanting to fill out the crop. The next year it was even worse, and after that they were abandoned as of no value. Some years after that, Mr. Fletcher, of Delanco, N. J., had a graperly which yielded abundantly for several years ; they were planted close, and pruned short, and seemed for a while to be suc-

cessful ; but eventually, the soil becoming exhausted, they gave way, failing to ripen the fruit, were dug up, sent to Philadelphia, and sold at auction at high prices on the credit of the crops which they had borne.

In the year 1844, I planted one eighth of an acre with Isabella, Catawba, and Elsingborough. Set posts and wires to support the vines. They grew finely and produced several fair crops, the best of which was 1250 pounds, or at the rate of five tons per acre, which sold at six cents per pound, and brought \$75, or at the rate of \$600 per acre. But that was too heavy a draught upon the vines and soil ; they gradually diminished afterward, until, being of little value, were removed.

Now, so far from being discouraged by the observation of these facts, we should look upon them as landmarks to guide our future operations. We could not raise half that quantity of corn or other farm crops, year after year, upon the same ground without replenishing the exhaustion annually with an application of manure.

I have now a small vineyard in bearing, embracing several varieties, one row of a kind, which have borne three good crops of fruit, and made the last year a better growth of well-ripened wood than ever before. The ground, a sandy loam with clay subsoil, was plowed deeply with a Michigan or double mould-board plow. The plants were set eight feet distant, in rows six feet apart, and but one cane was allowed to grow the first year. Trellises were erected by planting posts eight feet long, set two feet deep, and eight feet apart in the rows, with one rail (two by three inches) on top of the posts, and another fastened two feet from the ground, with wires extending from the lower to the upper rail, about ten inches apart, to support the young vines.

In the spring of the second year after planting, the cane which grew the first year was cut off even with the lower rail, and only the two upper buds allowed to grow, one in each direction. In the spring of the third year each of these canes was cut off about three and a half feet long, and one cane allowed to grow up each wire, the laterals or side branches being removed as they made their appearance during summer. In the spring of the fourth year the top of every other upright cane was cut off even with the top rail, and allowed to produce fruit ; the alternate canes are cut short near the arm by the lower rail, from the base of which a strong cane is thrown up to produce fruit the following year ; the one that had fruited last should then be removed, and allow a new growth from its base to produce fruit the next year, and so on alternately removing the wood that has borne fruit to give place for a new growth. The object in pruning being to control the growth of the vine, so that its strength shall be properly divided between ripening the present crop of fruit and producing a strong, healthy growth of wood, with well-developed buds for fruiting another year. Hence the error of taking an overcrop of fruit at the expense of a proper growth of wood.

The above method of training and pruning answers well, is simple, and an ordinary hand can do the work after once being shown how. Having about forty varieties of hardy grapes growing, the larger portion of them have done well with the above treatment.

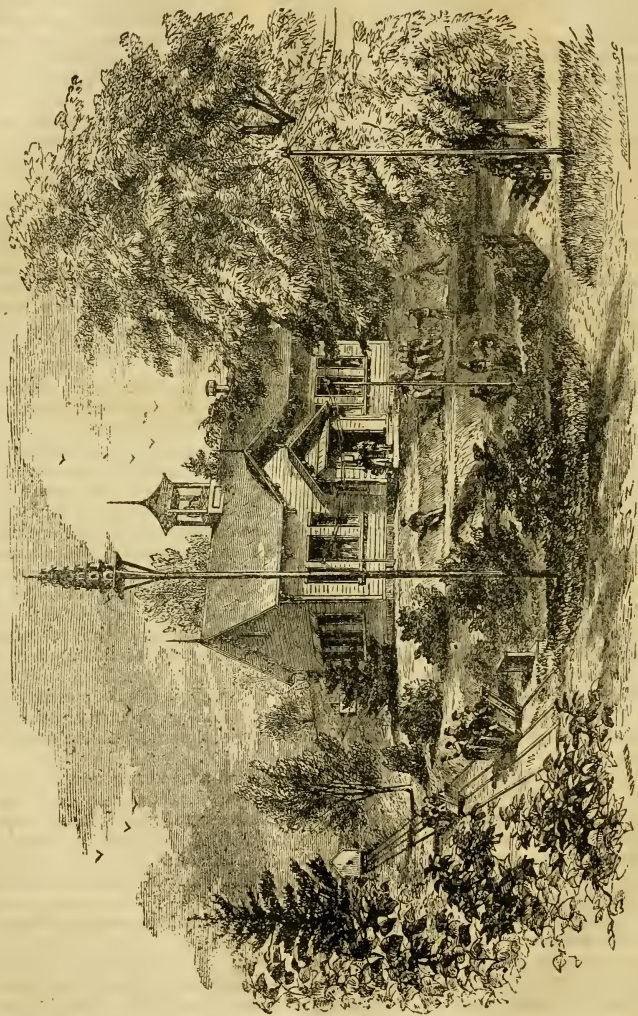
But the Concords and Hartford Prolifics have yielded the most money in market.

In the year 1866, the row of Concord vines produced at the rate of six tons of grapes per acre, which took an undue portion of their strength, leaving but little for the new wood, which made but a feeble growth, and not well ripened, and, in consequence, yielded no fruit of value in 1867. But a heavy coat of stable manure and judicious pruning replenished strength to make a fine growth of wood, which gave a full crop of perfectly ripened grapes in 1868.

The Hartford, ripening early, sold best, bringing twenty-five cents per pound, and yielded at the rate of nine hundred dollars per acre.

We apply manure every year, same as for potatoes and other farm crops ; could hardly expect to gather much fruit if we put nothing on to produce it.

The demand for table grapes is increasing faster than the supply. Twenty years ago my crop of grapes from the one eighth of an acre above referred to sold in Philadelphia at six cents a pound. Last year my crop averaged fifteen cents per pound in the same market, and one salesman informed me that he sold from his fruit-stand ten thousand dollars' worth of grapes, last fall.



View of the School-House at Little Blue, Farmington, Maine.



Design for a District School-House.

Country School-Houses.

IN our country districts where due attention is given to solid mental instruction for school children, we think that, if pains were taken to surround the school-house with objects which minister both to taste and enjoyment, a valuable aid will be gained in the healthy discipline of every school. More than this, too, if every town possessed a school-house of neat and tasteful architecture, there is inspired and cultivated a sense of beauty, which not only acts beneficially in the conduct and improvement of the scholars, but manifests itself by reaching far out toward their homes, and adding here and there in home surroundings evidences of a growing taste for rural ornament. Ever since Downing commenced his illustrations for the improvement of rural architecture, both school-houses and churches and private dwellings, the feeling has been fostered and stimulated in all parts of the country, that, if the old, plain, bare school-houses were taken away and replaced with structures of more taste and conveniences, the benefits on the children and the surrounding community will be such as to warrant every expense. On the opposite page, we give an illustration, from life, of a school-house at Farmington, Maine. It is more directly a private institution than public, being connected with a boarding-school named Little Blue. A glance at the engraving will show that the house is neat and convenient; but the tasteful hand of the proprietor has gathered around many additional elements for the active enjoyment of his pupils. The site is of great picturesque beauty. Around the building are gathered various pleasure-grounds for exercise, the railway, the ball-ground, the swing, etc. Were every school in the country as favorably situated, not a member would ever leave the school without a feeling of pleasant remembrance.

If, for one reason or another a boy or girl can be induced to *love the school*, more than half the battle is fought in giving him an education.

Our second illustration is from the columns of the *N. E. Farmer*, presenting a design at once unique and graceful, intended as a district school-house.

Another element of pleasure can be given to the scholars by inducing them to bring creeping vines and plant them by the sides of the house. Their own responsibility will

lead them to care tenderly for them, and when fully grown and twined gracefully around the windows or over the porch, the beauty of their looks will hardly excel the intense gratification of the donors.

New Winter Pear—Duchesse de Bordeaux.

BY J. S. HOUGHTON, PHILADELPHIA, PA.



TAKE pleasure in introducing to the notice of pomologists a new winter pear, which I believe will be found to be worthy of general cultivation.

The history of this pear is as follows: About eight years ago, I imported a number of these trees from France, with some other varieties, and planted them in my specimen grounds near Philadelphia. The trees were three or four years old, on quince stock, and fruited the second season, very abundantly. I was much struck with the bright, robust appearance of the trees, and with the size and beauty of the fruit, and watched the trees with much interest.

The description of the trees and fruit as sent out by Andre Leroy, Angers, France, was as follows:

"DUCHESS DE BORDEAUX PEAR.—Medium-sized, two and a half inches long and seven and a half in circumference; form roundish, irregular, imbricated; very often swollen on one side, flattened and sometimes even; drawn in on the other, and divided from the latter by a deep suture, which reaches from the eye to the stem; it is dented and its surface is uneven. The stem is about three quarters of an inch long, bent and planted in its surface, but bearing at its insertion, on one side only, a small nipple, fully characteristic. The eye is large and big enough, placed in a deep cavity. The skin is very thick and rough, of a deep brownish yellow, but some parts of it are, however, of a lighter yellow. As to the form and color, it bears some likeness to the Fortune Pear. The flesh is of a yellowish white, fine and melting, sweet and very juicy. It is a delicious pear, equal in quality, and is in truth superior to any kind of winter pear, without excepting the Easter Beurré. It begins to ripen in February, and continues in perfect state through March and April. Originated by M. Secher, near Angers, from a lot of wild pear seeds. It is very productive."

The fruit produced on my trees was of large size, resembling in form the Beurré Diel and Doyenné Boussock. There was one peculiarity about the fruit which led me to think it would be a good keeper, and that was the extreme thickness and toughness of the skin, which had a thick *twilled* appearance like the skin of some Havana oranges. I had formed the opinion that no pear with a thin, delicate skin, easily bruised, could ever become a good keeper for winter use.

For several years I tested the keeping qualities of this pear by putting it in stone jars in a common cellar, and in boxes in cool rooms, with no special packing or other care, and found it to keep till February, March, and April, sound and good; and to ripen up and color, in a melting condition, overflowing with rich, sweet aromatic juice, delicious and refreshing, and nearly first-rate in quality as compared with all pears, and positively first-rate as compared with winter pears.

The tree I found to be a very strong grower, resembling, in its appearance and the color of the wood, the Duchesse d'Angoulême, the Bartlett, and the Edmonds. It resembled these trees just named also in size and number of its fruit-buds, and in its astonishing prolific and fruitful tendency. I soon discovered that it would never fully prove its good qualities on the quince stock, as it had such a fatal tendency to overbear while young, and the union with the quince root was imperfect. I then commenced to double-work it by grafts, and ordered a quantity budded on pear stock by nurserymen in Western New-York.

The trees have continued to bear every year, when almost every other variety has been injured by spring frosts, and the fruit has been fair and satisfactory. The skin is so tough and dense that the curculio seems, by instinct, to avoid it as an unfavorable resting-place for its eggs, and hence it is less marked with crescent cuts than other pears.

Fungus, also, does not appear to find a congenial soil in its outer coating, and thus it escapes the unsightly black spots of that destructive excrescence.

I have a large number of trees and grafts of this pear now ready for bearing, and hope, at the meeting of the National Pomological Society, next autumn, to be able to exhibit some good specimens of the fruit. I know of no winter pear which can compare with it for size, beauty, keeping qualities, and general excellence, and no tree more hardy, thrifty, robust, and fruitful.

In 1866, I wrote to Andre Leroy, making inquiries respecting the success of this pear in France, and received the following answer :

“ANGERS, FRANCE, August 7, 1866.

“The Duchesse de Bordeaux Pear was raised by M. Secher, at Montjean, near Angers, about twenty years ago. He had the kindness, about six years ago, to offer us some specimens of the fruit, and some scions of his tree, to propagate it. We find the fruit very first-rate, and one of the most precious winter pears. It keeps till March and April in a perfectly good state. It is a good grower, both on quince and pear stocks, and also a good bearer. It is but very little known, nevertheless its reputation is increasing among all persons who have tested it. It has not yet fruited with us on pear stock. We have great confidence that this pear, when more extensively known, will become one of the most favorite with the public. It is as yet little known out of France.

“Yours very truly,

ANDRE LEROY.”

I may add that this pear has not been mentioned in any English or American catalogue or pomological work, and there is, I believe, no synonym of it. The “Duc de Bordeaux” mentioned in some catalogues is not the same. The Duchesse d’Hiver resembles it in wood and buds, but I am satisfied that it is not the same tree. Dr. Hogg, in the English *Manual of Pomology*, does not mention it, nor does Mr. Rivers in his lists.

I have no trees for sale. I have supplied buds to two nursery firms in Western New-York, who have budded some hundreds of trees on pear stock, at my request, and who will in due time, no doubt, announce trees for sale, on their own account. For myself, if I shall be the means of introducing to public notice a fine winter pear, of large size and high quality, which can be grown by every body and ripened up with little care and skill, like a russet apple, I shall feel abundantly rewarded for the care and attention which I have given this tree.

Notes on New Blackberries.

BY THE EDITOR.

IN our editorial rambles, last fall, in the neighborhood of New-York, we discovered in the grounds of a friend a variety of the blackberry which for its dark luxuriant growth and hardiness excited our closest attention and deepest interest. It seemed to promise a decided acquisition to our list of blackberries, and evidently, as far as grown and tried, bore marks of a superiority to all others by its side. In comparison with the Wilson, Kittatinny, and Lawton, the rank growth of this “stranger” afforded a very strong and pleasing contrast. The variety was named “The Sable Queen.” The following particulars of its origination and growth we have obtained from J. W. M., Reading, Mass., and place them before the public :

“More than twenty years ago, Mr. Daniel Graves (now deceased) frequented an old pasture in Essex Co., Mass., in the season of fruit, to obtain berries for family use.

“He observed, season after season, a single bush or cluster of blackberry bushes, every year excelling all surrounding plants in amount, size, and quality of fruit. He dug it up and planted it in his garden. Here it outstripped its former self, and produced an abundance of berries infinitely superior to any thing then known.

“The neighbors near Mr. Graves from time to time obtained the popular sorts as they appeared, but not always with eminent success. Learning of this variety in Mr.



The Sable Queen Blackberry.

Graves's garden, they solicited and obtained several plants each, which were tested on the same soils with all the other distinguished varieties. "The Sable Queen" proved completely acceptable, even to the exclusion of many others.

"Four years since it came into the hands of the present possessor. It has thus far been generally tested on *light soils*. Blackberries generally bear their largest crops on stronger soils. This variety will probably do the same; but on the soils wherever tried, it has yearly afforded abundant crops. Grown on the same soil with other varieties, its *hardihood* was unexcelled. In firmness of berry, an indispensable item in marketing, it is declared superior. When black, it is in fine eating order. In richness of flavor and general good quality, it is all that can be expected of a blackberry. If it has a fault, it is this, that on some of the berries a single seed or lobe does not color up as black as the balance of the berry. Whether this is an objection or not, it is a distinguishing test, and will serve to identify it completely if it is perpetuated."

The Dorchester, Lawton, Wilson Early, and Kittatinny, all have grown gradually into the public estimation, and now when a new variety appears and stands in comparison with them it must be subjected to an extended trial, and meet with public favor according to its merits. Local authority is quoted liberally in support of the "Sable Queen," but unanimous *national* authority is necessary to render any new-comer welcome.

What we have editorially seen thus far has pleased us, and if the fruit justifies our anticipations we can call it a worthy acquisition.

THE CRYSTAL WHITE BLACKBERRY.—A careful friend writes us that "he has grown four or five varieties of the White Blackberry, and none of them are worth cultivating for any practical purpose. The 'Crystal White' is perhaps the best. It bore with me a few white berries as clear as a White Grape Currant—quite a novelty, but of little value. My plants are half-killed to the ground now. We consider the variety practically useless."

Thus ends one "*horticultural novelty*."

MISSOURI MAMMOTH.—We have made constant inquiries as to the merits of this formidable novelty, and confess ourselves quite as much in the dark as before its appearance. Not one has yet reported to us concerning its bearing qualities; none have seen it in fruit. Its growth is rank enough, but there hangs a strange mystery around it that leads many to repudiate it altogether; one season more will develop its qualities, be they good or bad.

DODGE'S THORNLESS.—A variety in the possession of N. E. Dodge, Fredonia, N. Y., is not yet disseminated. Period of ripening, from the 15th to the 20th of August; described as possessing a good habit of growth, "entirely free from thorns, hardy, and productive."

THE WACHUSET BLACKBERRY.—A new blackberry, described as entirely thornless, now in the possession of Rufus R. Fletcher, Groton Junction, Mass. Mr. Fletcher states that "it was discovered wild on Monadnock Mountain, five years ago, does equally well on a light or a heavy soil, and has fruited regularly when others failed; possesses a compact habit of growth, very productive, and fruit of large size."

A blackberry which shall possess the qualities of even an average variety, but exempt from thorns, will be counted something decidedly novel and worth trying. We have not seen this variety, and can not indorse this or any other fruit unqualifiedly, until tested satisfactorily on the editor's own farm.

CYCLAMEN PERSICUM.—This is one of the best plants we have for window culture, succeeding admirably in any dwelling where a temperature above 50 degrees is maintained. Its delicate graceful flowers are borne in profusion, elevated well above the leaves, and are very enduring; a single bud continuing to flower from November to March. The Cyclamen can only be raised advantageously from seed, which should be sown now, as soon as procured, and the buds kept growing through the coming summer. If well cared for, they will be in bloom the following winter. The bulbs or corms can be kept for many years, constantly increasing in size and beauty, if planted in the open border in the spring and lifted and potted before frosty nights in the fall.

Trees Girdled by Field-Mice—How to Save Them.

THE obstacles that the practical horticulturist has to contend with are numerous. If he wishes his orchards to produce paying crops of fruit, he must be constantly on the alert, bestowing care on this or that pet tree, removing a branch from another, using the pruning-knife for some special object, either to retard or encourage its growth in a certain direction.

The labor is not at all times arduous, but constant watchfulness is required, and sound knowledge of the business, before the thousand and one annoyances that are constantly occurring can be mastered.

No experience of the horticulturist is so dismal or discouraging as when, entering his orchard soon after snow disappears in the spring, he finds that his trees are badly injured, and many fatally so, by the ravages of those abominable pests, the field-mice.

The winters of 1867 and 1868 were the most severe, and, in many respects, the most remarkable known in this section for many years. From early in December, snow-storms followed each other at short intervals, usually accompanied by heavy wind, in certain places drifting and piling up the snow several feet high. About the first of March nearly all of our pear orchard lay under a bed of snow five feet in depth, a part of which lay on the ground until the beginning of April. When the surface was clear, I soon found, on examination, evidence of the activity of these mice. Forty-one pear-trees were girdled—some half-way round the body, others having but a narrow connection of bark left—and to my great dismay twenty-six trees were completely girdled, for which I would not entertain an offer of \$500. There were a number barked two feet above the surface of the ground, and some of the main branches were girdled badly.

Under the circumstances, it was imperative that something should be done. If left as they were, the trees could not survive. On all of them the bark had been most effectually removed, leaving a bare place of wood twelve inches wide without any connection.

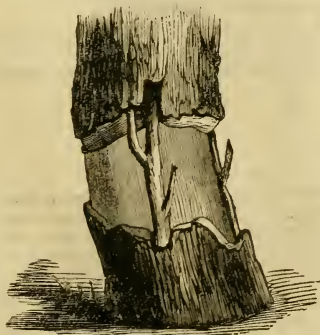
Some years ago, in hunting up horticultural curiosities, I had found, to my surprise, on the farm of John Brill, near Newark, a large cherry-tree, then about ten inches in diameter, that when young had been girdled, and he had inserted three scions in an upright position. The tree was living, and looking perfectly healthy, supported on three short columns, with the portion of the body that had been girdled, dead and removed, showing an opening in the centre of the tree between the columns.

I now set to work and prepared the scions by beveling them on the same side at both ends, and with a budding-knife making an opening both on the upper and lower edges of the bark. On each tree that was completely girdled I inserted three scions, and where there was only a small connection of bark left, I inserted one scion. I fastened them by a band the same as we use in budding, and then put on some grafting-wax, so that the air would be excluded when the ends of the scions were inserted.

The adjoining cut is an accurate drawing of one of these girdled trees, at the end of the first season. There were three scions inserted in this tree.

By this simple means every one of the trees was saved, and to-day they look as healthy and vigorous as any in the orchard. On this occasion, however, I found the trees that were injured were those growing in or near grass, and although I traced the paths of the mice on different parts in the orchard, no tree that had stood in plowed ground was injured.

The knowledge of this fact I consider valuable; for in the future I will keep the surface of the ground entirely free from grass. P. T. Q.



City Gardens.

BY A. S. FULLER.

Read before the Fruit-Growers' Club, New-York.

THE idea is becoming far too prevalent that because people live in a city they are to be deprived of the pleasures of a garden. The science of gardening does not teach that a certain number of acres is requisite, nor that stately trees with rugged stems, meandering streams with grassy banks, are indispensable adjuncts to every garden. It is true that many of our works which pretend to teach this science ignore the wants of the millions who live in cities where broad acres are not to be had for the asking nor for a paltry sum of money. It is quite probable that our authors, having read so much about "London smoke" and its injurious effects upon plants, have overlooked the fact that in *our* cities no such evil exists, at least not to any considerable extent.

There are many persons who will no doubt scoff at the idea of a garden where land is so precious as it is in New-York; but there are vacant places which might be filled with plants, and thus become both useful and ornamental, neither of which can be said of them in their present condition. Besides this, it is not always necessary to make a garden directly on *terra firma*, because plants can be grown in pots or beds of soil, elevated above the streets. A garden on Broadway might be an expensive luxury at the present day; still there is a garden on this noted street, and, we presume, the owner is perfectly satisfied with its location and the profits derived therefrom. Our object, however, at this time, is not to urge our city people to grow plants as a financial speculation, but merely for pleasure; not only for the amusement and benefit of the owner, but for the purpose of increasing the attractions of home, where their children will prefer to spend their leisure hours, instead of wandering through the streets, gathering a kind of knowledge that will seldom benefit them in after life. A small garden of only a few yards in extent, or a conservatory filled with choice plants, will furnish an endless source of amusement, and of a kind that never dwarfs the intellect, because an acquaintance with the beauties of the floral world tends to elevate as well as instruct. There are thousands of wealthy men in every large city who would rejoice in the thought that their sons would be known at some future day as honored and celebrated naturalists; but I would ask them if they are making the first move toward creating or encouraging a taste in their children for natural objects? Have they given their sons an opportunity of studying any of the natural sciences? Do they subscribe for any of the horticultural or botanical journals? Is the *Naturalist* or *Entomologist* to be found in their libraries, and are the works of Agassiz and Darwin purchased in preference to the historical novels of Louisa Mühlbach?

The immortal Linnæus had far less opportunity for the study of his darling science (botany) than thousands of the young men of our city have at this day; yet I fear that few of them will ever know enough of horticulture or botany to give the scientific name of the weed from which their cigars are made.

ADVANTAGE OF A CITY GARDEN.—Among the high walls of buildings and high fences that usually surround city yards the atmosphere never becomes so cold as it does in the suburbs, or in the open country adjacent; consequently, there are many plants that will thrive in our city gardens that perish in the country. Materials for fertilizing the soil are always abundant or near at hand in the city, and no plant need perish for want of food.

DIFFICULTIES TO BE OVERCOME.—The soil in our city yards, as a general thing, is entirely unfit for the reception of plants. It is usually very poor, besides being cold, damp, and very compact, needing a liberal application of enriching materials, deep trenching, and quite often an underdrain leading into the sewer in the street. But those who are determined to have a garden will overcome all these difficulties, and enjoy the necessary preparations, because so full of hope and dreams of pleasure to be reaped in the future. In some instances it may be necessary to send for a few loads of virgin mould, to be had even at no great distance from the centre of our largest cities. Insects and dust will often annoy those who attempt to grow flowers in a city; but water, the

great promoter of life among plants as well as destroyer of insects, is always at hand to do its work, if properly applied.

PLANTS FOR THE CITY.—In naming plants for city gardens, it will be necessary to notice the aspect, whether it be facing north or south, shady or fully exposed to the sun. Those who possess gardens facing the south, and where the sun can reach the soil a greater part of the day, may grow almost any species of plant that will succeed anywhere in this climate ; but where the soil is partially shaded, plants suited to those conditions must be selected. There is an abundance of plants adapted to sun and shade, therefore a monopoly is out of the question in city gardening.

One of the principal causes of failure in city gardening is found in the injudicious selection of plants. Those who are in search of plants visit one or more of our floral establishments in the spring, and they see so many beautiful things that they do not know what kinds to purchase, but select those which happen to strike their fancy ; leaving the question of adaptation to soil or location out of the question. A plant of English ivy is at home in a shady nook on the north side of a wall, but a verberna would soon perish by its side ; and here we might introduce one of the great and unsolved problems of horticulture, (adaptation ;) but enough has already been discovered to teach us that different plants require different exposures and treatment.

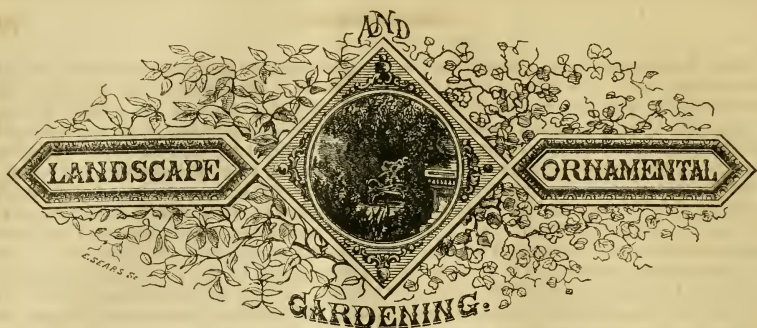
FRUITS FOR THE CITY GARDENS.—It is not to be supposed that those people who own but a city lot will expect to grow fruit sufficient for their own use ; still something can be done in this line. Apples, pears, plums, and other large fruits naturally borne on large trees are not suitable for city yards ; but when grown as dwarfs, or trained upon walls or on low trellises, there are few things more beautiful, or that will furnish more real pleasure to the possessor. Those who have never seen one of those dwarf trees, not exceeding two feet in height, loaded with large and luscious fruit, can scarcely imagine what a useful and beautiful thing can be grown in so small a space. A row of dwarf apples, even if not more than twenty feet long, when in full bloom, is a floral display not often excelled in the most costly conservatory ; and while we are enjoying the beauty of the apple blossoms, we know that they are promises of future luxuries. The same is true in regard to many other of the larger fruits which the gardener's art has moulded into forms suited to the most circumscribed space. Thousands of these trees might be grown in the city of New-York, in the narrow borders to be seen in almost every garden. But if there is any one fruit which has given more general satisfaction than another, it is the grape ; for high walls and trellises seem to be just suited to its wants and habits. Although thousands of grape-vines are now growing in every Northern city, there is room for ten times as many more. In every garden where the sun shines upon the ground for half of the day, grape-vines can be grown and be made to yield abundantly. It is not necessary, as many suppose, to have a wide, uncovered border for the roots, because, if the soil is made good and rich, and with a proper drainage, it may afterward be covered with brick or stone walks, leaving a space of a foot or two in diameter around the stem of the vine, and its roots will take care of themselves. Some of the most vigorous and healthy grape-vines to be found in New-York or Brooklyn are growing in yards the surface of which is almost entirely covered with brick and stone. We would not advise paving the earth about grape-vines ; still, if no other place could be secured, we would prepare the soil over which a pavement was to be laid so that the roots of the vines could pass underneath it, if necessary. Grapes will usually ripen earlier and better in city yards, where they are protected from cold winds, than in the open country ; but the great defect to be observed in vines grown in city gardens is in the pruning. The chief fault is that the vines are allowed to produce more fruit than they can bring to maturity. But we can not enter into the practical details of grape culture at this time, although every one who possesses a city yard on which the sun shines can produce as many grapes as a moderate-sized family can use during the autumn months.

ORNAMENTAL PLANTS.—A majority of those who live in a city will prefer to cultivate ornamental plants in preference to fruits. The first point to be observed is, whether the garden-plot is exposed to the sun or otherwise, because these conditions will determine what kinds of plants can be cultivated ; but in either case, very large and coarse-growing species should be avoided if a succession of flowers of a really beautiful effect from

foliage is desired. We will suppose that the garden has a full exposure to the sun for at least one half of the day ; in that case we will plant in the centre of a group, or at the north side of a square or oval bed, a few climbing plants, such as the Belgian honey-suckle, the Chinese or coral monthly, etc., or a climbing rose or two, each to be trained to the fence or to stakes. A few low-growing shrubs might follow, such as the *Weigelia Rosea*, *Pyrus Japonica*, *Spirea Reevesii*, *Deutzia Gracilis*, *Daphne Cneorum*, and a number of other similar growing plants to be found in almost every nursery. But there is another class of very desirable ornamental plants that has been almost universally neglected by our city people. I refer to the broad-leaved evergreens, such as rhododendrons, kalmias, and hollies. There is an almost endless variety of these that will thrive in our climate ; the flowers of most of them possess great beauty ; and the deep glossy green of the foliage during the whole year affords a striking and pleasing contrast with the bare walls and naked fences of a city yard. All kinds of plants are liable to be injured by dust that rises from the streets and settles upon their leaves, and there are none that will show its deleterious effects sooner than the broad-leaved evergreens ; but a few minutes spent each day is sufficient to keep them perfectly clean, especially where a hose and plenty of water is near at hand, as it is in every large city in the Union. Low-growing herbaceous plants of various kinds can be intermingled with the shrubs or planted alone ; a variety should be selected, so that a succession of flowers may be had during the whole season. The most desirable sorts will be found fully described in any of the late works on this subject. The great secret of success (if it can be called one) is cleanliness in the foliage of plants grown in cities. Prepare the soil so that the water will not remain so long about the roots as to become soured and filthy, and then keep the leaves clean, and there will be no trouble about growing plants in city yards.

PLANTS FOR SHADY SITUATIONS.—There are many people who own city plots that are partially shaded, and they make this an excuse for not cultivating plants of any kind. But nature teaches a different lesson, for she has spread her carpet, composed of the most gaudy colors, beneath the tall trees of our forests where the direct rays of the sun never fall. Go where you will, beneath the perpetual verdure of a tropical forest or in the deep shade of our northern woods, and there you may find hundreds and thousands of plants that flourish in the shade. Nature has provided plants suitable for both sunlight and shadow, and we have only to make a selection of the most desirable kinds. Nearly all of the hardy species of holly, (*ilex*,) mahonia, dwarf yews, junipers, acubas, berberis, do well in a half-shady border. Then there are many species and varieties of trailing evergreen plants, such as ivy, creeping myrtle, gualtheria, *Mitchella*, *Epigæ*, or trailing arbutus ; in fact, there is almost no end to the beautiful plants that may be successfully grown in a shady garden. The native ferns, as a class, are plants particularly adapted for such situations ; and I do not know of any thing in the shade range of ornamental gardening that will afford more pleasure to the possessor or produce a more pleasing sight than a well-arranged bed of our hardy ferns. A heap of stones, with the interstices filled with a light, pliable soil, is just the position for these most graceful and elegant plants. They are to be had in abundance everywhere in the country, and they cost nothing but the digging up and bringing to the city. Some of our northern species grow six or seven feet high, and others not more than two or three inches ; therefore there is no want of diversity in size or form of foliage.

PLANTS UNDER GLASS.—What we have said in regard to light and shade for plants in the open air is true of those grown under glass. There is an abundance of beautiful plants suitable to every position, likely to be met, either in city or country. Cultivating plants under glass can not be too highly recommended, particularly for cities, because in such situations they are always under control ; heat and moisture can be given and withheld to suit each species and variety. Besides this, flowers can be produced under glass at whatever season they are most desired ; and, as winter loses half its gloom and dreariness in their presence, we usually strive to have them abundant at that particular time. Our cities might become vast conservatories filled with the choicest products of the vegetable kingdom, if those who possess the means could be educated up to so high a standard as to appreciate the beautiful things which are so lavishly bestowed upon us by our Creator.



Landscape Gardening.

BY ROBERT MORRIS COPELAND.

THIS is the title of the least understood and worst named art which helps to refine and improve our social condition. I say social condition, because men who live entirely by themselves will, if they have any mental culture, find in the general landscape, and the beauties of mountain and forest, lane and hedge-row, enough to enjoy and admire without the aid of any art. As soon as we begin to live in communities, to acquire some surplus income, to find land growing costly, we try our best to increase the local attractions of our immediate surroundings, and to bring inside our own boundaries as much that is interesting and beautiful as we can. In former times wealth accumulated in but few hands; as riches increased a small competency soon swelled into wealth, and to secure the possession and enjoyment of wealth, when there were no mills, railroads, or bonds to give interest, men put their money into land and dwellings.

Land to be valuable must be improved, which gave rise to good farming and comfortable buildings. It was an easy and short step from *comfortable* to handsome buildings, and from improved farms and architecture, to improvements in the treatment of the surface of the earth, which gave birth to an art called by its originators Landscape Gardening.

Where this art took its rise the estates were large, and the artist was expected to deal with many miles of surface, and had in his control not only the surface on which to create his picture, but boundless money to work with. Consequently, when the workman was a master of his art, the landscape was actually moulded by him, and he could hope to, and did, cultivate the minds of his employers and the public by his works.

In process of time, money gathered in the purses of men not possessed of broad acres, who must content themselves with treating a small piece of ground elaborately, and trying to create on a small scale, by variety and detail, local beauty in place of broad landscape effects. Nature, ever ready to lend her aid to those who sue, with earnest deference helped the artist—with flowers, shrubs, and water—to produce miniature effects that were pleasing, and by lavish use of the minor materials great beauty has often been created.

But whilst all painters in oils are equally landscape artists, whether they cover ten feet or six square inches of canvas with their pictures, the men who have to deal with square miles or square feet of land are not equally entitled to be called Landscape Gardeners. It is true that in so far as half an acre is a part of the face of nature, so it is of the landscape, but in the original sense the title does not describe the work done on a small area.

The artist on the small scale should aspire to no more descriptive name than Ornamental Gardener, and should try to show by his familiarity with the decorative capacity of flowers and shrubs, and his wise use of them, that the art of ornamenting a small place is not less worthy than that of creating a landscape. In foreign countries, and

particularly England and France, decorative gardening has been carried to wonderful excellence, and the effects produced by decorative gardening, in form and color, are beyond description ; they rival in variety and richness the efforts of artists who use pliable brushes, soft color, and smooth canvas. In order to be successful, however, in such gardening, the workman must have unlimited control and supply of the materials to be used. When we look at the little places which are made along the Hudson and in the suburbs of our great cities, and enjoy the knots of flowers and the groups of shrubs, the combinations of trees and vines, and the smooth surface of waters, the play of fountains, we can but congratulate their owners that they have the money to spend in improving the country in which they live.

But the best places in this country are so far behind what is often done in Europe that it seems as if we had done nothing.

In the spring, the city markets and street stands are gay with stands of plants offered for sale, to be planted in the beds and yards of city and suburban houses ; and as each year we see an increasing number, we wonder where all these plants will find purchasers. Every country place of moderate size will require, some dozens, and some even hundreds, to give the enrichment their owners deem sufficient ; but dozens and hundreds are only the units used abroad.

One gardener in Scotland writes to a magazine that every fall he strikes 16,000 cuttings of zonal geraniums ; that at different times during the autumn and winter he puts in "batches" of 6000 verberna cuttings. In the garden of the Ville de Paris, the gardener annually provides 500,000 Cannas as a part of his stock.

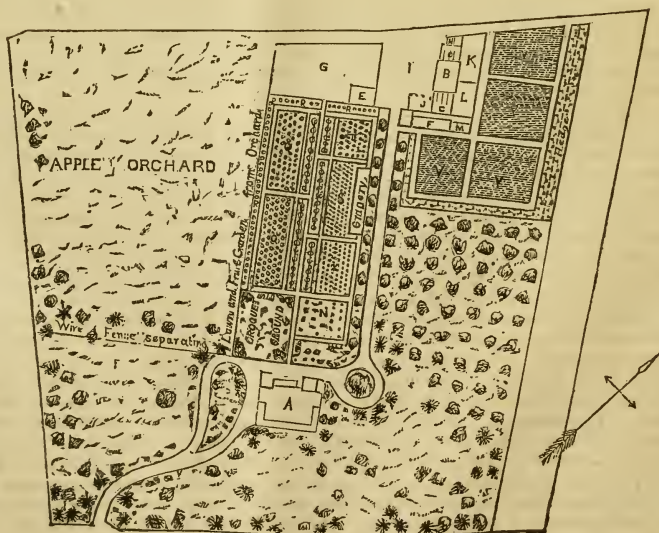
When we think of the miniature size and slow growth of such varieties as Pelargoniums, and Mrs. Pollock or Cloth of Gold, Light of Day, etc., and know that in the Victoria Park, Sydenham Palace, Kew, Battersea Park, and other English public grounds, there are many hundred feet of these plants in continuous rows and solid masses, it is easy to see that very large stocks must be provided. Our gardeners and horticulturists talk of bedding, of planting in masses, etc., repeating the words and cant phrases of English gardeners ; but not one of them would venture to look the idea fairly in the face of real decorative gardening, where the beds should rival in color and variety the common effects to be seen in any English or French park. The reason for this is apparent ; our gardeners are as competent as foreigners to grow the stock, and are eager to sell all they can grow, but the prices are too high to permit men of moderate means indulging their fancies.

Whether we buy our bedding plants or produce them, we are limited by the question of cost ; even if a man has houses of his own, and his own gardener, he stumbles at the idea of growing thousands of these plants for his own grounds ; he quickly reasons thus : these plants sell for \$1.50 per dozen. I can not afford it. If I produce them, I will sell them, and use the money to pay expenses. If there were no particular beauty or benefit in their decorative effects, this economy would not be greatly to be regretted, as no one wants to see profusion simply for the sake of profusion. The beauty which may be produced by the lavish use of color and variety in flowers, whether bedding plants, perennials, or annuals are used, is so great that somewhere in this country there ought to be as fine a display as in Europe.

Nowhere can this be done with so much propriety as in our parks ; nor shall we ever have the realized ideal of a park until we do make a strong and successful point of floral enrichment. Our parks are as yet only hybrids, mongrel mixtures of good ground-plans, florid architecture, bad planting, incongruous effects lacking that harmony in conception and subordination of parts which will make them enduring examples of good landscape gardening. The best of them please the careless multitude who only want a place to breathe, to play, to walk, and drive ; but the thoughtful observer of natural effects, the man who can foresee the future growth of taste and appreciation in the community, who can carry the present parks forward twenty years in his imagination, must see that our parks are related to the ideal and possible park, in the same degree as what we call the gingerbread and carpenter architecture of twenty years ago, is to the best buildings which are now being erected in town and country by our professed and educated architects.



Sketch of Grounds before Alteration.



Sketch after Improvement.

Home Scenes.

BY B. S. OLMSTEAD, RYE, N. Y.



IN this paper, and in those which may follow, it is proposed to illustrate, by practical examples, some of the various principles which underlie all artistic improvement of grounds.

No one who has traveled through the suburban parts of the country with open eyes can have failed to experience the varying emotions excited by the home scenes of the people. It may have been a poor man's dwelling, and oftener a woman's, which, by its simple beauty of hanging vines, green grass, and cooling shade, has made it seem as though all the home virtues might nestle there and grow apace, and has tempted the wayfarer to stop and rest awhile. Then, perchance, it may have been the rich man's home, rich not only in money, but in skill and taste in using money, where Simplicity has met him with her smiling, innocent face, where Convenience has extended her ever-ready helping hand, where Variety has tempted and Intricacy lured to further research, where over all Unity has reigned supreme, and where he has felt that it would be a joy to wear out the remnant of his three-score years and ten.

And then, alas! has come a blot upon the scene—the home of the sloven, with its broken palings, its slatternly, shadeless yard, its pigs and geese, and trumpery and dirt, which has hurried him on to the next friendly turn in the road where the hateful thing would be hidden from his sight. And worse than this, a scene of wasted time and money lavishly spent in tasteless extravagance, puerile conceits, and discordant forms—of trees, which might have been a glory and a beauty, spoiled and spoiling, has made the passer-by to mourn that the means thus employed could not have purchased for its possessor enough appreciation of natural beauty to have left it unmarred.

By what subtle influence these emotions may have been excited he may not discern; but that his journeyings were pleasant or unsatisfactory by reason of them he surely knows. Nevertheless, these varied feelings spring from unfailing sources. Far down, underlying all improvement and arrangement of these home scenes, are certain unchanging principles which, when heeded and obeyed, never cease to give satisfaction, but, when disregarded, rebuke with like certainty.

Some of these governing principles, those which are most frequently violated, and which may be referred to in the illustrations which are to follow, it will be convenient to enunciate in this place.

I. **SIMPLICITY.**—An avoidance of all affectation, ostentation, or extravagance; and which leads, by easy transitions, from one scene to another, and so seems to be the governing principle of

II. **VARIETY**, which calls into use the many lovely forms of the vegetable world; creating by them light and shade, vistas and recesses, and leads, by winding walks, from scene to scene; in short, it employs judiciously all the various means to avoid satiety.

III. **UTILITY**, which includes convenience of arrangement, fitness, or the adaptation of the various parts to the purposes of use.

IV. **SYMMETRY**—a proper balance of parts, not necessarily uniformity.

V. **ASSOCIATION.**—This principle calls into exercise the affections or the veneration of him who is surrounded by the scenes it has helped to create. It brings to mind the remembrances of past years. The offspring of the tree which a revered father planted, or the flower which was the special object of a loving mother's care, endears to son or daughter their home, however distant, more than all else. This law has still a wider range. It pervades all history. A sapling from an acorn borne by Charter Oak in the grounds of him who in early youth was taught its story, a cedar of Lebanon by some parish church, or a clambering ivy on its walls, shows how this law reaches back through years and centuries to bring around our homes objects of love and veneration.

VI. **APPROPRIATION.**—This law brings within the reach of the improver, surrounding objects over which he has otherwise no control. By it a limited space may be apparently extended; a small domain, cramped and confined, freed from its restraint. Under its teaching, scenes nearer home are harmonized with distant views, and made a consistent

part of the whole landscape. It is a principle often difficult and sometimes impossible to apply ; but in other cases it produces effects which are almost marvelous. Generally its results are satisfactory in proportion to the artistic skill of him who attempts its application.

VII. RECOGNITION OF ART, by which the beauty of the scene is traced to the hand of him who planned and perfected it. This principle includes order, neatness, and finish. It produces undulations with polished surfaces, gently melting into one another ; gracefully flowing lines, and, when straight, those which are perfectly straight. Under its influence the various elements of natural beauty are imitated and adapted to the purposes of habitation, but the result is never to be mistaken for a piece of natural scenery.

VIII. UNITY—the ruling spirit of all. It combines the several parts into one harmonious whole. The various parts may in themselves be beautiful, convenient, useful ; but where this law of unity has its legitimate control, they are all blended into one complete work of one mind.

Some of the leading principles of landscape gardening have thus been briefly glanced at, and they are believed to be immutable. It is, indeed, not impossible that beautiful scenes and beautiful adornment may be created without a competent knowledge of them ; but if these results are analyzed, it will be found that these laws have been unconsciously heeded. The untutored artist may by his early etchings surprise us, and, all unknown to himself, show an intuitive knowledge of the grand principles of the art he was born to illustrate and adorn. All this is granted and recognized. And another fact is also recognized—the fact of innumerable attempts and innumerable failures ; where it would be hard, indeed, to find a trace of law or principle, except in its violation, and where such violation has been the cause of the failure. If the thousands who are now attempting, and now failing, to improve and adorn their homes, could know, and recognize, and obey these and kindred laws, a change would pass over the face of our country as wonderful as if the paintings on the walls of some of our galleries could be replaced by the works of the great masters.

Who shall teach them ? Far be it from the writer to assume such a task. But if, in all their imperfection, these illustrations shall convince any one of these seekers after home beauty that there *are* great principles to help them in their efforts ; if, in case one of them has gone so far as to call to his aid any of those who make it their life's work to investigate and comprehend in all their fullness these principles, he shall be persuaded not to permit the advice and plans of such a helper to be marred, and garbled, and destroyed by the ignorant prejudices and jealousies of some grower of beets and onions or possible layer of stone walls ; if one place shall have been made more truly beautiful, one home more enjoyable, then the writer will feel that he has done one good work.

The plan which will now be considered will perhaps serve to show the change which may be wrought by the application of some of these principles.

The place referred to occupies one of the finest sites in the southern part of Westchester county. It commands fine views of Long Island Sound and the island beyond. The first sketch is a fair representation of the grounds as they are, or were, at the time the preliminary surveys were made. A thick planting of evergreens filled up the front portion of the grounds, through which a straight walk led from a small gate directly in front to the house, cutting this portion of the lawn into two parts. To make this division more marked, this walk was flanked on each side by parallel rows of box about eighteen inches high.

A half-decayed old apple orchard crowded upon the lawn on the north. On the south a stretch of lawn, covered with a promiscuous planting of young deciduous trees, extended to the southern boundary. Very few of these trees were so large but that they could be safely transplanted. Behind this, in the south-west corner of the place, was a thrifty orchard of apple-trees in fine bearing condition. Directly in the rear of the house was the vegetable garden, guarded on one hand by the privy, and on the other by a smoke-house. On the north of the garden was a heavy stone wall, along which was the road to a large farm-barn, not belonging to the present owner, and not represented on this plan. A carriage-house at C stood in close proximity to the house.

The approach-road extended from the southerly entrance gate to the steps at the south-east corner of the piazza, then around the house, by the kitchen-door, and so on to another gate north of the first entrance.

A "flutter of scene," producing a feeling of perplexity as to what it all meant, was the first impression felt ; afterward, a conviction that, if any distinct expression or character had ever been aimed at, it had not been reached. It was a failure.

The dwelling is a fine old hipped-roof mansion, quite convenient in its arrangements. As no great change in it was desired or deemed necessary by the owner, it became requisite to conform to it, in its present condition, all changes attempted in the grounds. By reference to the plan for improvement, the changes recommended will be obvious. In the grounds as they were, an awkward jog in the ha-ha wall in the front broke the continuity of the line on that side. This has been corrected, and the consequent effect is that the apparent extent has been increased.

To secure more lawn directly in front of the parlor windows, the entrance gate has been placed at a point near the southern boundary. This position gave opportunity for a graceful sweep of the approach-road up to the front steps. At this point the approach connects with a carriage sweep, and with the road to the rear of the house and to the carriage-house. This arrangement enables visitors to come and go without passing by the kitchen-door, as in the old way. It affords, also, an approach to the rear for butcher, grocer, and ice wagons, and other vehicles of like useful but not always ornamental character ; and if these would keep to the south of the palm-leaf-shaped grass-plot, they would intrude very little upon the pleasure-grounds. After depositing their loads, they can return by means of the circular sweep at the north-west corner of the house. This circle also serves another purpose. A carriage waiting at the front steps may be required to give place, for a moment, to another coming up behind. This it can do by proceeding to the rear, around the circle, and so back to its former position.

The old vegetable garden has been converted into a croquet-ground, a small shrubbery, a drying-ground, and a fruit-garden. On the northerly side of the latter is a cold grapery. The smoke-house has been taken away, and the privy removed from under the eye of every visitor to a spot made secluded by groups of flowering shrubs. The carriage-house has been placed in a more appropriate position, within convenient distance of the house, and where other needed offices can be grouped with it ; and a new vegetable garden located in immediate proximity to its manure and compost heaps ; whilst the ground on and near which it stood has been devoted to an orchard of standard pear-trees, sufficiently under the eye of the occupants of the house and of the gardener to keep hungry and covetous boys out of the way of temptation. A row of cherry-trees on each side of the drive to the carriage-house will afford a grateful shade on a hot day, and *perhaps* a rich treat of that luscious fruit in some propitious season. The poultry-house and yard have been located in the rear of the fruit-garden—a place well adapted to the purpose by reason of its warm exposure and convenient access, through the garden, for the ladies of the family. The walks leading to and in the fruit-garden, and the road to the carriage-house, are in straight lines ; the latter, because there is no reason for a curve ; and the former, because these lines are best adapted to the purposes of culture.

There was variety in the original planting of the grounds, but a variety by no means artistic. The changes were abrupt. There was no easy gradation from one scene to another. To correct this, many of the evergreens in front of the house have been removed and placed in positions where, whilst they give us the beauty of their presence, they serve as shelter from cold winds, as screens to those parts of the place which should be separated from the pleasure-grounds, and as helps to shut out the dust of the public road, and conceal the boundary on that side of the grounds. Others have been so placed as to cause the whole to blend harmoniously with the deciduous trees and shrubs. By this removal we open, also, a landscape of woods and pasture-lands, with the water in the distance. The straight walk, with its formal row of box, which cut up and frittered away the lawn where an unbroken expanse was most needed, and which would not have harmonized at all with the curving lines of the approach, was sadly out of place, and has been taken away.

The planting of deciduous trees on the south has been thrown into closer groups, or merged into the evergreens on the north. By this means vistas are opened through and along which the eye is led on to beautiful views of the Sound in this direction, and more decided masses of shade created. The ornamental planting has been extended into the easterly border of the apple-orchard to break the otherwise abrupt change from the irregular and natural planting in the pleasure-grounds to its straight and formal rows. The old orchard on the north has been entirely removed, to afford a wider extent of lawn and ornamental planting. It was the more easily spared, because the more thrifty orchard on the other side will give an ample supply of fruit.

In the plan which we have now considered, certain of those principles laid down in the former part of this paper have governed us.

Simplicity has been sought by avoiding all unnecessary walks, any abrupt changes, and by using the simple beauty of trees, shrubs, and grass for ornament.

Utility has held its sway in the arrangements for convenience, and in adapting the place to the purposes of use. The straight walks in both gardens, the carriage-sweeps, the drying-ground near the kitchen, the carriage-house and its offices, are instances of the application of this law.

Symmetry has wrought out a proper balance in the planting, so that about the same amount may be seen on either side of the house.

Recognition of art has caused the lines of the drives and walks, when in curves, to be easy and flowing, their sides parallel, and will be further obeyed in keeping their edges always true, the lawn smoothly shaven, and every department in perfect order.

Appropriation has preserved or opened the beautiful views of wood and water beyond ; whilst the boundaries of the place have been concealed by planting, and by the use of ha-ha walls on the front and south, and the almost invisible wire fence between the lawn and orchard.

Variety has been attained in the different character of the planting ; by its various bays and recesses, giving a new picture from almost every window ; by the vistas leading out to the country beyond ; by the glimpse into the croquet-ground, giving to every young visitor the promise of healthful enjoyment ; and by the change of the curves of the approach-road to the straight lines of the drives to the carriage-house and garden-walks ; and the ruling spirit of

Unity has been felt in the harmonizing influence of the circular sweep in the rear of the house, which has served to connect these two systems of lines without any abrupt transition. This law has also asserted itself by blending the various elements of the planting into one harmonious whole.

A Flower Sermon.

ONE of the most delightful little incidents in floral history is recorded thus : There is in Oldgate, London, a rector who has for years past preached an annual flower sermon to the school children of his own and the surrounding districts, for the purpose of inculcating in them a love of those floral beauties that speak as much of the existence of a Creator as any thing else on earth. The example set him also influenced another rector, and one evening his entire Sunday-school, to the number of over seven hundred children, each provided with a bouquet of flowers, sallied forth, headed by their pastor and several other ministers, for a walk through the parish to the church. A sermon was preached from the following text :

"I will be as the dew unto Israel : he shall grow as the lily, and cast forth his roots as Lebanon. His branches shall spread, and his beauty shall be as the olive-tree, and his smell as Lebanon."—Hosea 14 : 5, 6.

The whole of the children sat in the body of the church, which was tastefully hung with garlands of choice flowers, while the adults occupied the galleries. Nothing could have looked more beautiful than the aspect of the congregation, who, though mostly of the poorer classes, carried individually at least one flower, if not a large bouquet, and spread throughout the building a delicious perfume such as no artificial productions could compare with. From the humble dairy to the choice exotic, each had its representative. The occasion was one of long and delightful remembrance. How much more enjoyable such occasions are than the generality of public amusements !



CALENDAR OF GARDEN OPERATIONS FOR MARCH.

HAVING decided to make a hot-bed, where it shall be, its size, your heating materials, soil for the bed, and every thing in readiness, if the weather has the appearance of soon becoming settled for spring, it will do to lay the bed up, put on the sash, and let it commence to heat. After the heat reaches its height, place evenly over the surface six to eight inches of the soil, previously prepared of loam and well-rotted manure; you can then sow seeds of the earliest desirable vegetables. The occasion of failure with the hot-bed often results from too much haste in sowing or improper care after the plants come up. Seed should never be sown in the hot-bed till the heat begins to subside, as the heat and steam, when at the highest, destroy the life of the seed. It is only desirable to start a few of the earliest vegetables, this month. April is soon enough for most kinds of vegetables and plants, in this latitude, for the general cultivator; market-gardeners will commence in February.

Look now to the cabbage, cauliflower, lettuce, etc.; wintered in the cold frames and beds, and if in good condition, and promise plants in plenty, they should be pricked out into other beds to harden, ready to transplant into the open air in April. If there is likely to be a deficiency of plants, plant at once, and keep the beds in constant heat, with little ventilation, till the young plants are well started, after which give air cautiously.

Do you desire an early mess of asparagus? Take a sash and put over a small portion of the bed, having inclosed it with a frame, and worked in a good dressing of well-fined manure carefully, not to injure the crowns of the plants; and

by suitable attention to watering, ventilating, etc., you may reasonably expect good asparagus some weeks in advance of open-air culture. Beds not thus forced should have their covering of manure forked in with a light dressing of salt or brine over the surface. Seed may be sown in drills, where it is desirable to grow new plants, or new beds may be set with good strong plants. Read the article on "Asparagus" in the January number.

Seeds of tomato and pepper may be sown during the month, to furnish plants to be transplanted into the open garden in May. Plant the best seed from the earliest ripened, well-developed fruit of last year, of your own raising, or, if your neighbor grew earlier and better, buy of him.

There is little use in planting beans, squash, cucumbers, melons, and like seeds, to force, as they are tropical fruits and require settled warm weather before they will grow or do any thing in open culture. It is better to wait another month at least, and then start them on small square pieces of sod in the hot-bed.

The advantages of a hot-bed, in starting early tomatoes, peppers, cabbage, etc., can be had on a small scale with little of the trouble attending the hot-bed, by using boxes about six inches deep, filling with rich loam and well-decayed manure, and setting in a window of a warm room, where they will receive the sun a portion of the day, and planting the seed therein and watering as occasion requires, to prevent drying out. The plants are hardened off by carrying the boxes out-doors on pleasant days.

A few peas may be planted in rich, warm soil, as soon as the ground can be worked. Open the drills, and put in good well-decayed manure, or other fertilizer, and plant the seed over it, after covering with a light covering of soil;

cover the seed three or four inches deep, and lay some pea-brush over the rows, with the tops to the south to prevent radiation, etc.

Early potatoes may be planted as soon as the ground can be well fitted. For so early planting it is better to use whole tubers, well matured and developed, of medium or large size. The question of sets or sprouts for planting, in preference to whole tubers, is one that has occupied a large portion of attention from horticulturists and others, the discussion of which we wish here not to enter into. In warm weather, when plants can grow right along, there is less danger of a set or sprout rotting and dying than earlier, when we have wet and cold, often attended with frost, etc. At such time the whole tuber is better able to withstand and recover from the rigors of the season. The best varieties are much the subject of local circumstances, soil, climate, etc., no one being the *best* under all circumstances and in all locations. Regard in selecting must be had to taste, market demands, etc.

The manure and compost heap for farm or garden use should be forked over, to encourage decomposition. Every thing that will conduce to increase plant-food should be added to the compost. Decaying vegetables from the cellar, slops, and even greasy dish-water will add materially. Save and collect all the bones of animals, and break them in pieces; take a tub or cask, and fill in one or two inches of good wood-ashes, and pack your bones on this, filling in ashes sufficient to fill all vacancies, closing off with three or four inches on top, and on this empty the slop-pail. Kept wet with urine, the bones will in a few months break in pieces by shoveling over, and then you have a better fertilizer than any superphosphate the market affords, and at only a tithe of the cost. All manures are better kept under cover till needed for use, when they should be immediately covered or mixed with the soil, after being carted out.

Such vegetables as parsnips, salsify, etc., which were left in the ground over winter, will now be in their prime, and should be dug, packed away in sand in the bottom of a cool dry cellar, to be used as required.

A great fault of the rural population in growing garden vegetables is that they do not grow them in the variety they ought for their own health and greatest profit. They are too prone to follow in the steps of their ancestors, planting a few potatoes, beets, pole-beans, cucumbers, and a row of marrow-fat peas. As their fathers did before them, so do they; planting few varieties and not giving the garden the attention its profit requires. Now, there is a great variety of good and wholesome vegetables and products that may be grown in a temperate climate, in a well-ordered garden, that would redound to the interest and profit of all who can so well afford the space as all farmers can—some of which we hope at the proper season and during the year to call your attention to and interest you in, with hints for their culture,

etc. The different varieties of the cabbage tribe, artichokes, mushrooms, plants for salads, etc., will come under our notice.

Hardy vegetables to be used for producing seed, like the cabbage, carrot, celery, turnip, onions, etc., may be set out as soon as the ground can be worked, hauling the soil well over the crowns to protect from hard frosts. Euthusiasts in gardening should avoid the frequent error of supposing that summer has come if two or three pleasant days occur, and commence out-door operations before the soil is sufficiently dry or warm. Working the soil while wet frequently injures it, not only for the present crop, but for years after.

A few good garden-tools, such as hoes, shovel, spade, watering-pot, line and reel, markers, etc., are desirable for garden use, and should be in readiness for out-door operations. Old ones should be repaired, the wood painted, etc., and new ones, if needed, be purchased at the first opportunity. Purchase light and durable best steel tools, even if they do cost a few cents more at first; the extra cost is more than made up in ease of use; and after you get good tools, remember they are only kept so by *good care*.

FRUIT-GARDEN. — New plantings may be made here as soon as the ground settles. In the mean time, order and select new stock needed, and make all due preparations. Remember that a deep, rich, and well-drained soil is essential to success in growing good fruit.

In blackberries we have several varieties claiming our attention, such as the Dorchester, Kit-tatinny, New-Rochelle, Wilson, and several others. Which is the best depends more upon the soil, location, climate, and the care that is accorded to them than the variety itself. Planting now, give plenty of room, by setting the plants six feet apart each way. Old canes should be cut back to about six inches.

In planting fruit-trees in the garden, they should be mainly dwarfs, as they occupy less room than standards. For pears, plant Bartlett, Duchesse d'Angoulême, and Vicar of Winkfield. These would be our first choice.

Prepare ground for strawberries, if new beds are to be planted this spring. Spade in a good coat of manure, and work the ground at least two spits deep. Transplanting is done after the plants have started a little.

Cuttings made from currants and gooseberries in the fall may be planted in well-prepared beds, if not done last fall. Fall planting prepares the cuttings to grow right away in spring, and thus get nearly a season's growth ahead of those planted in spring. Few if any of the foreign gooseberries are sufficiently hardy to withstand our climate and perfect good fruit. The hardiest are the American seedlings. The healthiest and most hardy currants are the old Dutch, although several of the newer varieties give us larger and more pleasant flavored fruit; but to get *good* fruit in quantities from any variety requires good culture and constant care.

Cuttings and rooted plants of grapes may be planted out as soon as the ground is ready to receive them. Plant Delawares and other short-jointed slow-growing varieties, in rich soil; other free-growing varieties in soil less rich. Concord, Hartford Prolific, and Delaware are found generally most hardy, well-disseminated varieties, bearing ordinary treatment remarkably well. Several of the newer varieties are deserving of a place in all collections. Wherever the Catawba and Isabella will succeed and ripen their fruit, they will furnish that which is more desirable than almost any of the new grapes. It is not best to remove protection from strawberries, raspberries, and other protected plants, till after freezing and thawing are over for the season.

ORCHARD AND NURSERY.—If spring pruning is to be done, let it be done as soon as the wood is free of frost, before other work presses. As you prune, be on the lookout for the eggs of the tent-caterpillar and other insects. Cut off and burn the twigs holding them. Eggs of various insect enemies will be found glued to the twigs and forks of the young growth. Look carefully after the cankerworm-moth, and destroy them; they will try to ascend the trees to deposit their eggs as soon as the ground thaws so as to permit their egress. Washing the trunks and branches of fruit-trees with soap and water, or strong lye, will destroy many insects and invigorate the trees.

Prepare all the necessary tools, scions, grafting-wax, etc., ready for grafting, as soon as the season will permit. Stoned fruit-cherries, plums, etc., should be done first; apples and pears later.

Fork over the manure and compost heaps, and increase the deposit by adding decomposable matter. It will all be needed soon for dressing over the roots of trees and in preparing new grounds.

In taking up trees for replanting, be careful to preserve as many of the fibrous roots as possible, and not to wound or injure the main ones. Any bruised ones should be pruned off smooth, cutting from the under side, slanting outward.

In making new plantings, prepare the ground by deep plowing, subsoiling, underdraining, unless well drained naturally, and enriching the soil with good compost, vegetable, animal, and mineral manure. Make holes for setting the trees sufficiently large to spread the roots out straight in, and extend eight or ten inches larger all around and four to six inches deeper than needed for the roots; fill in the bottom with good rich soil or sods chopped fine; set the tree spreading the roots well, and work in around and under the roots rich fine soil with the hands, and after covering the roots, firm with the foot. Set the young trees so that the top-side roots will be covered three or four inches deep; and if a mulch of chip-dirt or coarse manure is spread over, as far around as the roots extend, it will prevent drying out.

Grape and other like seeds to be planted should be brought into a warm room, mixed with sand, and kept moist in a warm atmosphere for a few weeks before planting out. They come up much more readily thus treated than if planted without this preparation.

Trees budded last season should have the stock cut back to about three inches of the bud.

Root-grafted stock made during the winter may be planted out in the nursery as soon as the ground is in condition to plant; always bearing in mind, it is better to drive your work than to have that drive you.

LAWN AND FLOWER-GARDEN.—The work here is dependent upon the season and the amount of fall work done preparatory. The thoughtful gardener will always find something that may be done to advantage in keeping things in order, and to forward the work of a more busy season, such as clearing up, repairing old and making new walks, preparing stakes, trellises, etc.

On the lawn, there will be the fallen leaves, dry sticks, and branches blown down during the winter, to be cleared off; trees and shrubs to clear of dry, dead, or broken branches; bare spots to be dressed with compost well raked in, and reseeded with mixed lawn grass-seed. Top-dress with some suitable fertilizer—old rotten manure, compost, or guano is good, and roll well with a heavy roller. If small depressions in the surface occur, fill them up with rich soil. A lawn thus treated is kept even and smooth, and is better than if broken up to be smoothed and reseeded.

New hedges of thorn, privet, buckthorn, barberry, etc., may be set when the ground comes in order, and old ones cleared out of dead wood and leaves, and vacancies filled out.

Plant out and thin hardy shrubs, giving them a dressing of manure. Box-edgings should be reset before it becomes unsightly from killing out or unevenness, etc.; vacancies filled with new plants; grass-edgings may be laid new, and old ones trimmed and repaired.

The beds containing daisies, ranunculuses, anemones, etc., should be opened when safe; and, where desirable, sash may be put on and a growth started, to be soon followed with bloom.

Hand-glasses are very convenient for the purpose of starting early spring blooming-plants, such as snowdrops, crocuses, violets, polyanthus, etc.

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PLOWING AMONG GRAPE-VINES.—Novices sometimes think they can plow the ground between their vines, especially if it has been neglected. This of course is sheer folly; the best plan is to use a cultivator with short teeth, not over four inches long, and go through and through. This will do the work thoroughly, and if the ground is well drained, this with good cultivation will insure good health to the vines.

EARLY TOMATOES.—Plant seed in a hot-bed now. As soon as the plants have developed their second leaves, up with them, and plant in another part of the bed, four inches apart and one inch deeper than they grew before. In a couple of weeks the plants will begin to grow vigorously, and the leaves touch; then transplant to a cold frame, one inch deeper again. Do not be in a hurry to get them out into the garden. When you meet men on the ferry-boat going home to their country places with a parcel of lanky tomato-plants from the city seed-stores, observe the date, then wait a full fortnight before your plants are put out. Waiting for a rainy day is not necessary, for the plants will come up with balls and a mass of roots that will astonish you, and may be transplanted without a leaf wilting. By following this mode we always beat our neighbors a fortnight.

YELLOW IN PEACH-TREES.—While Western horticulturists are attributing the yellows to various different causes, we would state that at the Fruit-Growers' Club, New-York, lately, the idea was advanced that the sole cause lay in the frequent changes of temperature, or *chilling*. Several specimens of the wood from different trees were shown. Those from the healthy tree were perfectly uniform and clear throughout, while that from the tree having the yellows showed the interior wood of a very dark color, evidently diseased, the outer circle or ring still being healthy. Peach-trees are well known to be very sensitive to changes of temperature. Is it not reasonable to suppose that, where a tree is obliged to suffer frequently from "chills," the interior of the tree and its sap are affected and disease engendered? How is it, horticulturists?

MONTHLIES VS. WEEKLIES.

QUITE a number of our friends and neighbors of the weekly agricultural press are indulging in some queer "type-setting," like the following: "Please notice that this is a weekly of fifty-two issues a year, and not a monthly of only twelve issues for the same price."

We have no criticism to offer as to their choice of any fair inducement to gain newcomers to their subscription-lists, but it is not quite right to convey the idea that, because a journal comes four times as often as another, it is four times as valuable; nor by inference that a monthly is not worth taking at all. It so happens that, in nearly every department of literature, both agricultural and polite literature, the monthlies have much the largest circulation and most powerful influence. What literary weekly of sound, solid character has as large a circulation as *The Atlantic Monthly*? What weekly journal of popular illustrated literature, of travels, history, and romance, has as large a circulation as *Harper's Monthly*? What agricultural journal, of

any character, excels the *American Agriculturist* in circulation? What journal that makes Horticulture its sole object is more highly esteemed than *THE HORTICULTURIST*?

Let any of these bombastic fellows that offer the above specimen of argument go into any standard library throughout the country, and ask for a file of any prominent agricultural weekly, and he is respectfully informed that they are not considered worth keeping. Let him inquire in the Astor and other libraries, in New-York, and he is informed that only monthlies are kept for record.

The truth is, that the monthlies are the standard preservers of history. A weekly newspaper, from its very nature containing a vast mass of matter intended to please and instruct for the passing week only, and to be replaced by another in a few days, does not possess a value which is to last for ten or twenty years hence, save to a very small class of persons.

But a monthly is constantly making a historical record, to be often referred to for years and years yet to come. If well conducted, its contents are esteemed the choicest of its kind, and its character is respected with high dignity. Its numbers and volumes are bound, and find an appreciative resting-place on the shelves of public or private libraries, and every line of type will be scanned by scores of different eyes as long as libraries and history may last.

This very day a full set of the volumes of the *Atlantic*, *Harper's*, or *THE HORTICULTURIST* will command more money, either at an auction sale or from private hands, than a full set of any two agricultural journals that may be named in this country.

Friends of the press, after this make no distinctions between the twelve issues and the fifty-two issues a year! A farmer, for his two or three dollars, may seem to get the most for his money by taking the latter; but at the end of the year the former has a choice character in his eyes which the latter rarely or never possesses.

BUILDING FIRES IN ORCHARDS.

THE peculiarities of our climate in late years, causing our orchards to be visited with late frosts about the time of blossoming, have suggested the inquiry in the minds of many whether a favorable change in the temperature of the air around the trees can be induced by the building of fires. This practice has been carried out in various instances by large fruit-growers with eminent success, and yet only very few have tried it. It is an operation requiring considerable discretion, and in order to be effective must be quite thorough. A large peach-grower in Illinois, while a strong northerly wind was blowing, and with such sudden change of temperature as to endanger all his trees, built large fires of some smoky material on the windward side of his orchard. The smoke, which was dense and abundant, drifted down among the branches of the

trees, moderating the cold, and at the end of two days, during which time the "norther" raged with great force, his orchard came out unharmed. Some years ago, an incident like the following occurred. A severe frost occurred, one year, on the 4th of June, killing the wheat, corn, and fruit over a large extent of our Western country. On that night, in an orchard, a cow happened to be lying under a large apple-tree. The fruit on that tree was saved, while on all the others in the orchard it was killed. The warmth from the cow's body and breath, rising into the tree and spreading among the leaves and branches, kept the temperature elevated above the freezing-point. We give this incident publicity, although unable to verify or locate it. It hardly seems probable that the small degree of warmth from the cow was sufficient to save the tree, yet there may have been especially favorable circumstances not otherwise mentioned. We have no doubt that fires in orchards, built of some very smoky material, and blown by the wind into the whole orchard, can be used judiciously and with good benefit. If, however, we were desirous of planting a peach orchard to obviate all such necessity, we would take particular pains to put it on the south side of a grove, or if on the prairie, plant a grove just north and west of it.

HINTS ON SMALL FRUITS.

A CORRESPONDENT of the Fruit-Growers' Club, N. Y., lately asked the following questions, and the answer by Mr. A. S. Fuller deserves a wide publicity, for it is a kind of information now greatly desired by cultivators: 1. Will it do to continue pinching back the young shoots all through the growing season until frost, or should we stop in the fall? If so, at what time? 2. How long will blackberry and raspberry plantations last? I understand that some growers recommend taking up the old plants every four or five years and setting out new plants in their place. I hear that the Antwerp raspberry is failing at Milton, on the Hudson River. 3. I have seen it recommended to plow or furrow up to the plants in the fall. Now, should the soil be left there during the next summer, or be taken away?

REPLY BY A. S. FULLER.

1. It is difficult to give directions that will suit all localities and soils in regard to pinching back the young canes of raspberries and blackberries. My practice is to pinch back blackberries but once or twice in the season, according to the strength of the plants, and then only the main cane is checked, as I prefer to let the side shoots grow their full length, and prune them back in winter or early in the spring. I usually commence pinching off the main cane in July, and if the upper buds start and grow too strong, I check them again in August, but never later than the first of September. Late summer pruning

or pinching is always injurious, particularly if the plants are growing very vigorously, because they are very likely to produce new shoots which will be killed by the frost. Besides this, the fruit-buds which are relied upon for the next season's crop will sometimes start in the fall, and of course be destroyed by the first frost. I have never found it necessary to check the growth of raspberry plants in summer, and I doubt if it is ever beneficial. 2. The duration of raspberry and blackberry plantations will depend entirely upon the soil and care given them. Probably five years is about the average duration, but I have known some to be as good at fifteen as they were at three or four years. 3. Plowing the soil up to the plants in the fall is certainly to be recommended for both raspberries and blackberries, but the soil should be made level again in spring.

MYRTLE-LEAVED ORANGE.—This is a plant seldom seen in our green-houses, but should be in our collection of plants grown for winter flowering. It is easily propagated by budding at the proper season on seedling stocks, planted in the open ground. Under such conditions, success is nearly as certain as with the peach.

In two years from the bud this orange forms nice compact plants and flowers profusely. The small intensely green leaves contrast so finely with its pure and fragrant flowers, that each little sprig is a bouquet in itself. Other varieties of orange have leaves too large, which are often of a sickly green. In the cultivation of the orange, our practice is to turn the plants out of pots into the open ground every second season. If this practice is pursued every year, the plants grow too strongly to flower well. So they are kept in pots alternately and plunged to the rims in the open border. The fruit is small, and of no value except for ornament.

MARESCHAL NIEL ROSE SAID TO BE HARDY.—The *Canada Farmer* mentions the fact that this new and splendid rose has been exposed to a temperature of eighteen degrees below zero without injury. In the ground of a friend living in New-Jersey, two buds of this rose, inserted in a shoot of one of the strong growing climbing varieties, passed through the winter of 1867 unscathed, and have this season made a combined growth of over forty feet. We have some doubts of the general hardiness of this variety in all soils and situations. Can any of our readers give us more information?

CRYSTALLIZING FLOWERS.—This is done by suspending or repeatedly dipping them in water saturated with alum. Dried specimens can only be used by this process. The freshness and beauty of flowers can be preserved by dipping them in glycerine.

SEEDLING MORELLO CHERRY.—The difficulty with which cherries, outside of the Morellos, have been grown on the prairie soils of the West, has induced attention to growing seedlings adapted to the soil and climate. One of the most extensive growers of seedlings, D. B. Wier, Esq., Lacon, Illinois, writes that he has over four thousand seedlings, from Early Richmond, Governor Wood, English Morello, etc., some of which have and some have not fruited. Among those that have fruited, one, a seedling from the Black Morello, gives promise of value, and should it sustain its promise, in future years will be named and disseminated. At present it is not offered for sale or to give away. Mr. Wier describes the "tree as more thrifty and upright than its parent; leaves finely serrate, long and narrow; fruit, same size and color as the English Morello, but not quite so much elongated or heart-shaped; stem, long and slender; ripens with English Morello."

GROWING GRAPES.—It is a noticeable fact that those persons who have large, well-kept gardens, in favorable climates, and who are in the habit of having their work well done, rarely, if ever, fail to have certain and abundant crops of grapes, if they have vines set out. This is owing, in a great measure, to the way in which the vines are treated, and also to the high state of cultivation in which these gardens are kept, rendering failure next to impossible.

No one will meet with a total failure in growing a crop of grapes if he will bestow suitable labor and care on the vines. The vines should be carefully selected in the first place, then they should be set out in ground prepared expressly for the purpose. After this is done, if they are trained to run on trellises, and pruned on the renewal system, a good crop can be expected. But it is too often the case that, in garden culture, the vines are left to themselves, receiving no attention or pruning; the consequence of such neglect is, that as they are allowed to spread more and more each succeeding year, running over fences, and twining themselves around the trunks of adjacent trees, the fruit becomes smaller in size, diminishes in quality, and becomes eventually of little value; yet, with necessary attention, grape-vines will always thrive and produce fruit, unless the season be unfavorable, or they are affected with disease of some kind.—*Rural American*.

TAKE CARE OF YOUR FRUIT-TREES.—*F. K. Phenix* warns fruit-growers against carelessness and neglect in planting their trees, saying: "Friends, if you want trees to thrive, plant on dry, deeply plowed ground. Keep roots from sun, air, frost, burying in ground again as soon as possible. If shriveled, bury tops and all in moist ground for ten days. Thin out and shorten in tops before planting, to balance the

loss of roots in digging. Dig large holes, three feet across and two deep; or, better still, plow out very deep furrows, filling up with the best soil, so that trees shall stand only as deep as in the nursery. Straighten out all roots in natural order; fill in with best, fine, moist earth, and then tread down thoroughly; watering, if dry, before filling up. Then mulch, that is, cover the earth two feet each way from stems with coarse manure or straw, two inches deep. Always put corn, or some hoed crop, and never grass or grain, among young trees. All trees and plants in grassy yards, and dwarf trees also, must have special care. Wash the bodies of apple-trees in spring with strong soap suds. Kill off the caterpillars and leaf-rollers. Let fruit-trees head low—within three or four feet of, and ever-greens from, the ground. Let every body plant trees, and take care of them!"

WHAT BIRDS CAN DO.—An elm-tree, twelve years old, in one season ripens 164,500 seeds, all which in twelve years more would become as large trees as their parent, showing that a succession of 26,960,000,000 of trees might come from one; so of every tree; then any tree in time would cover, monopolize, the globe! But insects check the trees, and birds the insects. There are 1000 kinds of butterflies and moths in Massachusetts, and more than 4000 kinds in the United States; and 1000 pairs of moths will produce 300,000 caterpillars the first year, 45,000,000 the second, and 6,750,000,000 the third! But one bird will destroy (or prevent the existence of) 1,000,000 of caterpillars in a season; a pair of birds, 2,000,000; and the three, four, or five *young* birds, 3,000,000 more—making 5,000,000 of caterpillars which one family of birds will destroy or forestall in a year! What *infinite* fatuity to think of raising fruit without all the birds!

GRAPES are bought by the California wine-maker and delivered at his press, clean, for seventy cents per one hundred pounds; and it is stated that in one thousand pounds scarcely one pound of unripe or rotted berries has to be cut out from the bunches.

TRANSFERRING PLANTS.—The editor of *The Germantown Telegraph* says: There is no mode that we ever tried so effectual in transplanting tomato, cabbage, cantaloupe, or any other tender plants from the hot-bed, or from one place to another, as to prepare a vessel filled with manure-water and rich soil, about the consistency of thin mush, with which the roots of the plants should be well-coated and set in a hole made with a sharp round piece of wood or dibble. After being rather firmly planted, moisten again with manure-water. We have never failed in any transplanting when done in this way, and the trouble is very slight.

SOWING ASPARAGUS SEED.

WHERE it can be done, and the cultivator can have the patience to wait for a proper length of time, it is always best to grow asparagus from seed.

The ground should be well plowed to the depth of from 12 to 15 inches, and made as rich as possible.

Sow the seed in drills one foot apart, and the following year thin out to one foot in the rows. This method will be certain of producing a good, permanent bed, and in three years it will have full vigor.

Those who prefer to set out from roots will do well to choose those only one year old, never older. Let them be about one foot apart each way, and the crown of the roots from 4 to 6 inches below the surface.

During the winter they should have a fine dressing of manure, and in the spring it should be forked in, all clods removed, and the top-soil nicely pulverized with a rake. A dressing of coarse salt—fish-salt will answer—should be applied about the first of April. The ground should be well covered with the salt, but care must be taken that it does not come in contact with box-edging plants and small trees, as it is fatal to them.

SPURIOUS EARLY ROSE POTATOES.—Facts have come to light showing that impostors are palming off on the public spurious specimens of this famous potato. The circumstances are these. Last spring, a firm of potato-dealers, in Boston, purchased a car-load of potatoes from Vermont, and in the mass there appeared a quantity of similar shape and color as the Early Rose. Instead of disposing of them in the usual way as table potatoes, they put them on the market as seed-potatoes of the Early Rose. In the vicinity of Boston many were sold and planted; but not until last fall was the fraud discovered. The potato proved to be *very late*, and so long in maturing that even the October frosts found the tops green, while the Early Rose potatoes were ripe and the tops dead in July. Buyers need no further caution to purchase from responsible parties.

CURRENTS.—An idea seems to prevail among cultivators that the currant will thrive in any soil, in any position, and with any cultivation. Our experience satisfies us well that the currant will *not* grow upon any or all of the above hypotheses.

The soil best adapted for the successful cultivation of the currant *must* be deep, rich, and somewhat heavy, but *always* moist. We have never yet succeeded in growing them successfully on light loam or a sandy soil; they will *not* bear excessive heat. It is possible that in warm climates they may be grown for a year or two by

the aid of mulching or planting in a cool situation or on the shady side of the fence, but we feel sure that after the third year the cultivator will find little comfort or produce sufficient to warrant their occupying necessary room. In New-England, where the currant succeeds to perfection in almost any spot where it may be placed, the idea of soil would seem somewhat trifling to discuss, but out of New-England, both soil and climate must be considered. It is useless to attempt growing currants on a light soil, with a climate where very hot suns are constant.

The currant-bush of itself does not generally require any supports; yet we have seen it recommended, and we think the plan is a good one, to stretch a single wire along the rows; this will allow of spreading out the plants fan-form; and when spread out in this shape, the sun and air are more readily admitted, and the fruit will reach much greater perfection.

PLANT TREES.—When the editor penned his paragraph for the January number, blessing the man who planted trees for his posterity, he did not know how pleasantly and successfully this had been done by one old veteran on the plains of Iowa. *The Prairie Farmer* says:

"Three miles from Tipton, Iowa, there is a prairie farm owned by 'Uncle Josh.' When he first settled there, there was not a tree growing upon the tract. Nine years ago he devoted—some said sacrificed—eight acres around his farm to young evergreens, such as balsam fir, Norway spruce, arbor vitæ, Scotch and American pine. These were set so as to leave winding walks and drives, and liberal open spaces were left for strawberries, small vineyards, and flowers. The trees are now well developed, branching low, and running up, in pyramidal form, fifteen to twenty feet in height. There are almost one thousand of them, standing as sentinels around 'Uncle Josh,' protecting him from the winter winds and the scorching suns of summer. The birds nestle in them in spring time, and the soft zephyrs of eventide, after the toil and heat of summer days, will breathe their music into his soul, and lighten his toils, and gladden his days, and they will sing their requiems over his grave, and make his name immortal.

"I was told that these evergreens, thus adorning the prairie and making glad the hearts of all beholders, had raised the value of surrounding farms from five to ten dollars per acre."

MANURING TREES.—A safe guide is to watch the trees themselves. If they grow vigorously, with shoots of over two feet in length, with no care, then they need little attention; but if only a foot or less, the owner may settle his mind that he must apply both manure and cultivation to save his trees. If the trees grow annually from one to two feet or more, they are doing well.

A RURAL CURIOSITY.—At New-Brunswick, N. J., on the north side of the river, and immediately adjoining the railroad bridge, is a very fine country-seat, showing off a magnificent house, with an open, spacious lawn around it. Travelers passing up and down in the cars have noticed that the entire place, containing, say, twenty acres, is surrounded by a very neat rustic fence of untrimmed, unbarked cedar-wood, and built in panels of six feet in length and four feet in height, presenting a very singular but unique appearance. Yet few have noticed that in the entire length of this fence, containing several thousand panels, not one is like another. Every panel is different from all others, either in the size, or shape, or arrangement of the wood. Some of the sticks are long, and those adjoining of all sizes, down to six inches. Others are crooked, some are arranged in squares, some in rectangles of all shapes, others in diamonds and triangles or squares, or lines parallel, perpendicular, and horizontal, crossing from side to side, and up and down, in every conceivable position.

The number of variations is marvelous; and the mind which was able to conceive so many designs and arrange them in so agreeable a form must possess superior taste. It is, to our mind, one of the great curiosities of the day in rural embellishment.

Pleasure-lovers will do well to take a look at it as they ride by.

L. L. FAIRCHILD, writing to *The Western Farmer*, concerning a visit to some of the best dairy regions in New-York State, makes some statements which lead one to think whether American farmers are progressing in rural taste or not. He says:

"Three years ago, on a visit to Northern New-York, in the rich dairy region, I was struck by the general dearth of rural improvement. Neither the villages nor the country presented that inviting and cultivated aspect that greets the traveler in many portions of the West. Comparatively speaking, little had been done, in proportion to the time the country had been settled, in the way of setting out shade trees along the lines of public highways, or in the tasteful adorning of yards with shrubs and flowers. Many yards, belonging to well-to-do farmers, were bare of shrubbery, and were put to the practical use of "baiting" the team or pasturing a pet calf or lamb. The vegetable garden received better attention, but it was mostly in the good old way. The newer varieties of vegetables had found their way into but few gardens. The old system of raised beds was still in vogue. The fruit-garden was still more neglected. Strawberries, raspberries, blackberries, grapes, crab-apples, and so forth, were almost wholly neglected. People seemed to be giving much more attention to fine carriages, silver-

plated harness, the latest cut of coat, and the newest style of bonnets, than they did to the outward adornment of their homes. You would see some large, fine houses with scarcely a tree, shrub, or flower to yield refreshing shade or gratify the love of the beautiful. A bare house without trees, shrubbery, and flowers is not a pleasant sight. It is the surroundings that add to it a charm and give to it the attractiveness which we all admire. The little cottage with its vine-intwined bower and beautiful flowers delights our senses far more than the cold and stately mansion, destitute of the surroundings that make the cottage attractive.

"The people of the West seem less the votaries of fashion and greater lovers of the beautiful in nature, and surround their homes with an attractive display, furnished by the growth of trees, shrubs, vines, and flowers. The Western village generally presents to the eye of the traveler a coolness and beauty to which many of the older Eastern villages are strangers. True, there are many lovely villages in New-York State, but, as a general rule, I think they will not bear comparison with their younger sisters of the West.

"If the people of the Eastern States do not wake up, they will soon find themselves far in the rear of the West in rural improvement, and that display of the beautiful in nature that goes far, very far, in making home attractive."

YOUNG TREES IN OLD ORCHARDS.—It is always a bad practice to reset young trees in an orchard or in the same holes from which old decayed fruit-trees have been taken away. The reason is this: the rotting and decaying of the trunk and roots produce a fungus exceedingly injurious, tainting the soil. If any one will examine the land, he will find it full of a net-work of decayed wood, and the only way to plant the ground successfully is to grub out the old roots and burn them, apply lime, and cultivate well. Young trees may then do well.

Mr. Wilson C. Flagg, who had extensive orchards at Alton, Ill., replanted several hundred young trees in the same holes from which the old ones had been grubbed out. For vigor of growth and healthfulness of foliage they were equal to any grown on new land; but the reason for this success was the burning of the old trees in the holes. Mr. Flagg attributes his success as much to the power of the heat on the soil as to the ashes.

RHODODENDRONS will not flourish in any soil containing an abundance of calcareous or clayey matter. In almost every other soil they will grow, if enriched with well-rotted leaf-mould. They will do well in a heavy loam or a rich sandy loam, or, in fact, in any loam free from calcareous matter.

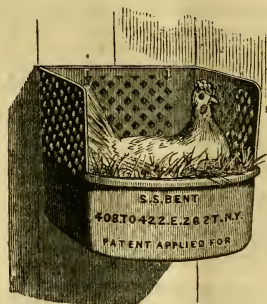


Fig. 1.—A Ventilated Nest.

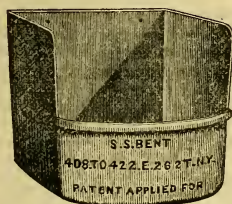


Fig. 2.—A Plain Nest.

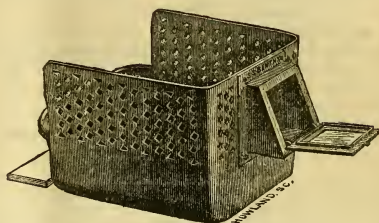


Fig. 3.—Rear View of Nest.

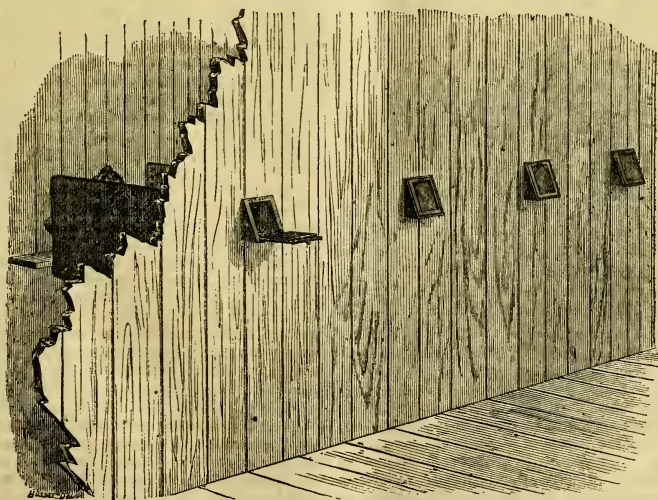


Fig. 4.—A Range of Nests.

IMPORTANT NOTICE.

THE Editor particularly requests all pomologists, fruit-growers, gardeners, and florists, in all parts of the country, to inform him constantly of the appearance of new varieties of fruits, trees, vines, or seeds, and to send as soon as possible full and impartial descriptions of the same, with specimen for illustration.

The Editor has a test and experimental farm at Dover, Delaware, where all the latest horticultural novelties will be tested before recommendation, and a cordial invitation is extended to all interested to send any new plants or reeds, no matter how many, that may be considered worthy of trial.

Full and impartial reports will appear at the end of each season, and it is expected this will be a feature of good practical interest in THE HORTICULTURIST.

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AN important item in the question of fruit-growing is the availability it gives to the labor of children—than which nothing is better for the boys and girls, if they do not have too much of it.

Poultry.

IRON NESTS.

UPON the preceding page, we present illustrations of iron poultry nests, which seem, from their simplicity, to be very suitable for general use. Fig. 1 represents a nest with ventilated sides; and Fig. 2, a plain nest—these are attached by their backs to the walls of the poultry-house; and Fig. 3 shows a rear view, with the door open. The object of this arrangement is that a large poultry-house can be constructed with passageways and boarded partitions, and the nests so fixed on the other side of the partition as to make it an easy matter to collect the eggs through the rear doors, without the necessity of entering the poultry-house, disturbing the hens or soiling the clothes. Fig. 4 shows the outside of the partition, and the end to the right is broken to show the nest on the opposite side. By this system, egg raising and gathering is made cleanly, systematic, and a pleasure.

POULTRY.

As the interest in the various kinds of domestic birds seems to be constantly increasing, and as the *duck* is one of the most easily grown and most profitable for farmers or fanciers who are prepared to give them proper attention, I have concluded to devote this paper to a consideration of the merits of that most popular variety known as the ROUEN DUCK. It

is contended by poultry savants or cognoscenti that the name Rouen is a misnomer; that the proper name of this variety should be *Roan Duck*, as that is descriptive of the color of the male bird; and further, that it is the color of the Wild Mallard, from which the naturalists contend that the now numerous varieties of domestic ducks have descended. But as it is not the purpose of your correspondent to attempt either to settle the origin of any specific variety or to establish the unity of the species, he will proceed at once to the consideration of the particular breed already referred to.

In the color of their plumage both the drake and the duck are the same as the Wild Mallard, so generally known throughout the United States, though they are considerably larger in size. In England as well as in this country, this breed has taken a front rank, as well from its rapid maturity and large size as its superiority as a table fowl. I know of no domestic fowl which matures so rapidly as the duck, or gives a larger return for the care bestowed. With generous feeding, it is not unusual for young drakes to weigh from 5½ to 6½ pounds at from two and a half to three months old. The duck, before desiring to sit, lays a great number of large-sized eggs which are very rich in flavor. The color of their eggs is a sort of bluish green, which are said by Mr. Hewitt, an English breeder of large experience, to be considerably thicker in the shell than the eggs of the Aylesbury Duck, which divides with them the favor of English breeders. Most ducks are apt to lay their eggs at night, and where they have free access to ponds or large streams, they drop their eggs in these, till nature suggests to them the expediency of making provision for a coming progeny. In order to make sure of their eggs when the laying season commences, which is generally the latter part of February or March, the ducks should be confined to their pens or houses during the night.

The editor of the London *Journal of Horticulture*, in his paper of the 18th ultimo, in noticing the poultry show at Birmingham, which was attended by over 44,000 visitors, and where nearly 2000 coops of poultry were on exhibition, employs the following language in referring to the ducks: "The result of duck-breeding is a curious one. Some years since the Aylesbury was always heavy, the Rouen was a bird of feather; the latter, having accomplished feather, took up weight, and has now passed the Aylesbury in the race. The three prize pens of Rouens weighed 55½ lbs.; respectively, 19½ lbs., 18½ lbs., 18½ lbs.: the Aylesbury collectively, 50½ lbs.; separately, 17½ lbs., 17½ lbs., 16½ lbs. We were amused to find many persons, during the show, speaking of the Aylesbury and Rouen as the edible ducks, and putting the Black and the Call ducks among the fancy birds. It is a great mistake; both these breeds are excellent for the table, the former being distinguished, even among the good ones." E.



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Additional Hints on Marketing Small Fruits.

BY B. N. COMMINGS, NEW-BRITAIN, CT.

THE culture of small fruits is extending so widely throughout the country, that every fact relative to their proper care and means necessary to secure highest market prices becomes of vital interest to every fruit-grower.

In addition to what has hitherto been said on the subject of shipping fruit for market, I add a few notes that have come under my immediate observation.

Last year, I observed that berries shipped in good packages from Virginia, Maryland, Delaware, and South-Jersey sold for high prices, while thousands of quarts picked on the same days, and shipped by the same route in tight, square, or gift boxes, were either thrown away as worthless, or sold at prices that made little or no return to the grower. It is now pretty well understood among commission men and retail dealers that no tight box, no box with many perpendicular sides nor with many sharp edges, can bring berries to market in good condition, and dealers generally refuse to handle such packages, and close them out at a discount.

Crates, too, are used of great variety of patterns and inferiorly made. It is hardly necessary for me to urge what has been often repeated before, that all crates should be of the strongest material, thoroughly bound and ironed at the corners, and as neatly planed as possible. Good looks in berry baskets and crates are a decided help to sales.

The berry baskets themselves should be broadest at the top, so that the berries may *support* each other. In a box or basket with perpendicular sides, the whole weight of the berries rests on the bottom, and as a result in long distances the entire mass is smashed and ferments. A good berry-basket, whether square or round, should have ventilated sides and slope from the top inward.

All perishable fruits require ventilation in proportion to the warmth of the weather and the amount of water they contain, and the rapidity with which they part with it. Most fruits can be preserved for a long time in a cold, dry atmosphere without ventilation.

Apples may be preserved at a temperature just above freezing for months without decay. At a temperature of 80°, the best of winter apples in tight barrels will spoil in a few days. We have seen early potatoes shipped in July in tight barrels nearly ruined on the passage from Norfolk to New-York. A man might as well attempt to live without air as to transport strawberries any considerable distance without ventilation. It is possible, however, to have too much of a good thing. A ripe strawberry laid in an

open window or on a shelf will wilt and shrink up in a very short time. In very warm, drying weather, strawberries in a basket so open as to admit of a free circulation through the entire basket will shrink one fifth of their bulk in a single day. The ventilation of any kind of fruit should only be sufficient to convey off the vapor which exhales in a comparatively confined atmosphere.

FRUIT-CARS.—Cars for transporting fruit should be kept cool, free from dust, and sufficiently ventilated to carry off the moisture which may escape from the fruit. Nor is this all; fruit-cars should be adjusted with springs, to jar the berries as little as possible. It may not be very easy to secure all that we desire without an effort. The fruit growers of the great berry districts of South-Jersey, Delaware, and Maryland should combine to secure this result. If they would employ competent men and construct their own cars, if they can not get them without, they would save thousands of dollars annually. Car-building is not in our line, but we would advise that all fruit-cars should be put on the best possible springs, and the sides and top made double. On the sides of the car, near the roof, there should be hoods or cowls which will work as exhausters when the car is in motion.

The experiment has been repeatedly tried of transporting berries on ice, but it has generally proved a failure; the excessive moisture of the atmosphere injuring the fruit quite as much as it is benefited by the low temperature. A recent invention by J. Rutter, of Chester, Pa., promises to furnish on steamers and cars a large "Transportation Fruit-Box," so constructed that the vapor from the melting ice can not escape into the fruit apartment, thereby securing a low temperature and a dry atmosphere, a condition that must certainly preserve (at a temperature of from 40 to 50° Fahrenheit) strawberries in good condition from three to six days, according to the skill and care with which the principles of the invention are carried out. This will bring strawberries to the New-York market in good condition from South-Carolina and Florida, from three to four weeks earlier than can be supplied by the usual shipments.

Berries that can reach the consumer in a few hours after picking may be fully or even dead ripe; but in all cases of shipping to a distance, this condition should be anticipated by about half the time required in transit. If the Wilson strawberries are to be from 36 to 48 hours in reaching the market, they should be quite hard and the under side of a pink tinge. They will then ripen and become a deep red by the time they reach the market. Berries should, if possible, be picked in the cool of the day, or cooled off before shipping. At all times they should be removed from the sun as quick as possible after picking. In picking, the berry should never be squeezed or pulled off. The picker should seize the stem as near the berry as possible with the thumb and finger, and pinch or snap it off. Berries should always be assorted, and those of inferior quality sent separate, if at all. It will pay the grower to round the baskets handsomely. The buyer will always honor a full basket. Scant measure is an abomination.

Lastly, order all baskets early. Many delay ordering until a few days before picking, when it is almost impossible to obtain them in time. Many have lost their first and best pickings because of this very reason. The question is frequently asked, How many baskets are needed per acre? The answer depends entirely upon the distance from the market. If close at hand, a capacity of 2000 quart baskets per acre is necessary. If 100 miles or over from market, fully a double quantity is needed. Growers generally imagine their crates will be returned to them immediately after sale by the commission merchant. This is not correct; the buyer takes crate and all away sometimes to his store, allowing them to remain a day or two until sold, and then returning crate and baskets; or perhaps, as is often the case, shipping to distant towns in the interior of the country, where they are not liberated and returned for a full week or more.

An investment in good berry-baskets may appear at first sight costly, but since they can be used for three or four kinds of berries during each growing season, and will last for several years, the money, in addition to being *necessarily*, is yet *well* spent.

Careful attention in fruit-growing, by producing fruit of first quality and marketing it well, will never fail of handsome returns.

The Naomi Raspberry.

BY M. B. BATEHAM, PAINESVILLE, O.

THE Naomi Raspberry has been referred to in the columns of THE HORTICULTURIST and a few other journals, within the past three years, in terms of high commendation. From my opportunities for observation of its history, character, and value, I think that it promises to be one of the leading novelties of the horticultural world.

As it had its origin in this section of Ohio, and I am daily receiving letters of inquiry concerning it, I herewith give the truth in full as to what is known of it.

It was produced from seeds sown by Mrs. Gov. Wood, of Rockport, (now of California,) nearly twenty years ago, and did not attract any particular attention for a number of years, until Mr. F. R. Elliott, observing the beauty and excellence of the fruit and hardiness of the plant, by the consent of Mrs. Wood named it *Naomi*, and afterward published a drawing and description of it in THE HORTICULTURIST. In the report of the Department of Agriculture for 1866, Mr. Elliott gave a better representation of the Naomi, (along with other raspberries,) and the following descriptive remarks:

"Fruit large to very large, roundish, slightly conical or obtuse conical; grains large; color bright, rich red; flesh firm and sprightly, rich and delicious; canes strong, with numerous lateral branches when fruiting, brown, smooth, occasional inconspicuous spines; leaves broad lanceolate; very productive and hardy.

"The Naomi is comparatively a new variety, but observation of it for about twelve years, during which it has been grown with only good common cultivation, and entirely without winter protection—each year producing large and profitable crops of very superior fruit—induces me to place it in the department report, because of the great interest felt at this time in the cultivation of small fruits."

Coming from such authorities as these, of course it created an immediate attention and interest from the best practical horticulturists of the country. The Ohio State Horticultural Society having announced that a first-rate, *hardy* raspberry, of the Antwerp class, was yet a great desideratum, the committee of that society arranged a visit to the gardens in the vicinity of Cleveland, in the season of raspberry ripening, for the special purpose of examining the Naomi. This committee consisted of the following gentlemen: Dr. J. A. Warder, G. W. Campbell, N. Olmer, D. C. Richmond, N. L. Wood, M. B. Bateham, and quite a number of other visitors.

In a number of the gardens visited there appeared to be a confusion as to the purity and genuineness of the plants; even on the grounds of Mrs. Wood and Mr. Merwin, many plants called Naomi were pronounced spurious, and no large lot of undoubtedly pure Naomis was found until they reached Collamer, where, on the grounds of Mr. Hall, they found a beautiful display of the plants and fruit, and agreeing perfectly with the finest of Mrs. Wood's own specimens.

All were pleased with the appearance, quality, and productiveness of the Naomi, and regard the hardiness of the plant as an established fact.

This fruit has been grown at Collamer for more than ten years, in a variety of exposures, and as yet has suffered no injury from the winters or failed in producing a crop; and when sent to market, has invariably brought the highest price.

To subject it to a still harder test, boxes of the fruit were sent, in the hot days of July last year, to the cities of Boston, New-York, Philadelphia, Rochester, and Cincinnati, and arrived in excellent condition; the appearance and flavor of the fruit exciting the admiration of all. M. P. Wilder, P. Barry, and Thomas Meehan particularly testified to this fact by letters.

I am asked how the Naomi compares with other varieties of the same class, especially the *Clarke*, which is admitted to be also of fine quality and hardy. In appearance and character of fruit and plant, the Naomi resembles the *Franconia* more than any other variety; but the fruit seems to me firmer and of brighter color, with a little more sprightly flavor; but all who have seen the true *Franconia* when well grown are aware that it is among the very best, only lacking hardiness of the canes, which is possessed

by the Naomi. The Clarke I have not seen in its best condition of growth and fruitage—only young plants bearing a half crop. The fruit is of good color and flavor, and the plants vigorous and hardy, with more abundant foliage than the Naomi, and hence may be better adapted to warm climates and unfavorable soils. Mr. Campbell exhibited a good dish of the Clarke at the meeting of the committee in Cleveland, and when compared with the Naomi, the latter berries were a trifle the largest and firmest. After the meeting, a gentleman who had both varieties in bearing told me he thought the Naomi more productive, and superior as a market fruit.

At the meeting of the State Horticultural Society, at Columbus, last December, there was a discussion on raspberries, and information being called for respecting the Naomi, Col. Richmond, of Sandusky, who is an extensive fruit-grower, said he was very much interested as one of the committee who inspected the raspberries around Cleveland the past summer, and he would say of Mr. Hall's Naomi crop that it exceeded anything that he had before seen in this country or in Europe, and he had made the small fruits a study for many years, traveling thousands of miles to visit the most noted growers, and observing all the fruits in the markets. He was satisfied that Mr. Hall's and Mr. Swan's plants had received no extra care or cultivation, and no winter protection.

There has been a great negligence in allowing the Naomi and a large number of inferior seedlings to grow up together without taking pains to separate them; Mr. Richmond, who had purchased one hundred plants for himself, found only ten or a dozen genuine. Now it is believed that the plants on the above-named place of Mr. Hall are of undoubted genuineness. As to the difference between the Naomi and Franconia, Mr. Elliott has already stated that he had both varieties in his grounds, and while there was much resemblance in the fruit, the Naomi, probably a seedling of the Franconia, still there was quite a difference in the superior hardness of the plant of the Naomi, by which it was able to withstand the winters of Northern Ohio, while the Franconia, like the other foreign varieties of its class, needs protection.

A Cozy Cottage.

WE frequently hear many enthusiastic individuals, desirous of leaving the city for the country, express a wish for some "nice, cozy cottage," wherewith to help out to the full their enjoyment of country life; or, again, in some inland town, or village perhaps, some young married couple wish anxiously for a "love of a cottage" of their own. The fact is apparent that the demand for *cheap* houses is fivefold that for villas of taste and luxury. An architect or builder ministering to the wants of an entire community will be more often consulted for a design to cost from \$2000 to \$5000 than for any plan over that sum. Hence, if we would spread the principles and practice of a choice taste for Rural Architecture throughout the country, we must exercise our ingenuity to present plans that will be acceptable to persons of moderate capital and moderate means.

The design we present upon the opposite page is of this nature. It is intended for a small family, yet it is so conveniently arranged as to supply all the room that is necessary. A glance at the plan will give all the explanation necessary.

The foundation should be made of stone, and the cellar be placed under the extension. The lower part of the house is weather-boarded horizontally, and the upper part vertically, jutting out from the wall four inches. The height of the first story is 9 feet, the second is 9 feet in the centre, and four feet at the sides of the rooms. The roofs project, at an angle of 45°, nearly two feet over the sides of the house, and are covered with pine shingles.

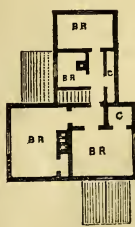
The interior arrangement of the rooms, on either floor, may be altered to suit any occupant, but the general shape of the house may still be retained. The porch may be relieved from its bareness and simplicity by placing trellises at the sides and twining climbing-roses or rapid-growing climbers. The same may be also trained against the corners of the house, and thus impart a cheerful look, helping in the impression of the "coziness" of the retreat.



A COZY COTTAGE.



First Floor.



Second Floor.

The cost of such a cottage will be quite moderate. It was erected a few years since at Rutherford Park, N. J., for \$2200; at the present time, in the neighborhood of New-York, its cost will be from \$2500 to \$3000. In our inland towns, where the price of material is much less, \$2000 may be considered sufficient.

In the building of our country-houses, the greatest importance should be attached to a *choice of location*. Dr. Henry I. Bowditch, in a series of articles on consumption, traces the cause of that terrible disease, in many cases, to the unfavorable situation of the dwelling. He says:

"By all means avoid a wet soil as a spot for building, whether that place be on the hillside or in the valley. Or if it be already chosen and the homestead built, let a thorough under-drainage be made all around the house and to a considerable distance from it. Many may think that a hillside residence alone is sufficient. Far from it. One of our correspondents told us that, till he knew of our investigations, he could not understand why consumption entered almost every dwelling scattered over one of the hills in his own town, while it rarely was found in those upon a hill similarly situated with respect to sunlight, points of the compass, etc., and similarly wooded. There was, however, one very striking difference which he had always noticed between them, namely, that one had a dry, porous soil, upon which it was necessary to dig deep for wells, while on the other, water was reached a foot or two below the surface. The earth was, in fact, so full of water that whenever, in accordance with ancient superstition, the graves of those who had died were opened in order to procure certain relics for the benefit of some living but invalid relative, the coffins were always found full of water, although buried in very shallow graves.

We know a village situated on a wide, level plain, through which a sluggish river barely creeps along its winding course toward the sea. The whole earth on which these houses are built is literally reeking with water. This village has sprung up, mushroom-like, on each side of a railroad that runs through it. Already its situation is affecting the health of the inhabitants, yet no active general measures, we believe, have ever been taken to drain the town.

Build your houses in the country in preference to any place near the sea-coast. In the country, choose a slope rather than a plain to build upon, and where the sun can have full access to it, if possible, all the day. Be sure (if need be, by effectual subdrainage) that the soil is thoroughly permeable to water. Let no moisture from the soil, from any source, be permitted to distill its pernicious influences upon the future dwelling or its inmates. Let the rooms be large, of substantial breadth rather than height, and so pierced by windows that the air may have a bounteous and free entrance and exit. Let fire-places be built in every room and chamber—fire-places made for real use, not kept for show, and not closed with iron plates which are to be pierced for air-tight stoves. Outside of the house let there be ample space for air and sunlight. One or two trees may be permitted to grow near the house, but not to overshadow it, for nothing but evil comes from too much shade, either of trees or climbing-vines."

Vegetables—Their Growth and Cultivation.

BY THOMAS CAVANAGH, BROOKLYN, NEW-YORK.

SOIL.—The best soil for vegetables is a sandy loam, subsoiled or trenched at least two feet deep. If the soil is a hard gravel or very sandy, a top dressing of good loam will be beneficial. If the soil is a tenacious clay, then lime, plaster, and ashes will, to a certain extent, correct this difficulty. All these preparations may be expensive, but the sequel will show that the expense will be a paying investment.

SIZE OF A GARDEN.—If both the soil and situation are favorable, there will be little difficulty in having a good vegetable garden. The size of a vegetable garden will depend upon the wants of a family; one fourth of an acre will, under a skillful rotation of crops, yield as much as an acre under poor management. It is a general principle in horticultural

ture to raise the largest amount possible from the smallest surface. It generally gives more pleasure to see a small patch well tilled than a large patch well filled with weeds.

EARLINESS.—The chief object of a good gardener is to forward his vegetables as early as possible. He succeeds in this by attending to five general rules: *first*, and most important, is the selection of fresh seed; *second*, strict attention to the young plants when growing; *third*, total destruction of injurious insects and weeds when young; *fourth*, furnishing plenty of fertilizing material for the plants to feed on; *fifth*, keeping the soil loose and open to the various changes of the atmosphere.

The loss of a single day to the gardener has an influence felt through the entire season; his crop is just that much behindhand, and sometimes the whole season is lost in consequence. Experience teaches me the truth of this.

MANURE.—The question is often asked, What is the best kind of manure? and second, Is it better when decomposed than when fresh? The answer to the first question is, it is immaterial whether it is horse, cow, or pig manure; the amount of fertilizing properties in manure is in ratio to the food the animals have been fed on; manure from green food is not equal to that from stall-fed cattle. Second, with some varieties of vegetables, decomposed manures are to be preferred; small seeds, such as onions, carrots, and parsnips, do better in fine manure; still, many market gardeners use the very freshest manure with good results. One of the most successful cultivators I ever knew carried off the premium for years, for vegetables that were grown on land manured with fresh night-soil. Nevertheless, good well-rotted manure is always the safest.

ROTATION OF CROPS is another important matter connected with vegetable gardening. It is true that good crops of one kind of vegetable have been raised on the same ground without any apparent diminution of their produce, yet it is more safe to change the variety every second year. Different plants draw different kinds of nourishment from the soil, and when one particular element of a vegetable is removed from the soil, that vegetable can not be grown there again without restoring that particular element of nourishment. Tap-rooted vegetables should be succeeded by those of a fibrous character, and *vice versa*.

SOWING SEEDS.—This, too, is perhaps the most important operation of the gardener. The proper time for sowing, either in the garden or on the field, is when the soil has just been turned up and thoroughly pulverized. Dry weather is to be preferred. If seeds are sown when the ground is wet, they are longer in coming up; the soil packs, and the sun bakes the surface so hard that the young shoot can scarcely penetrate it. We prefer to sow seeds when the soil is light and dry, and when there is a prospect of a shower. A seed to germinate quickly requires heat, air, and moisture. Soaking seed in dry weather will help them to germinate much quicker. A weak solution of guano water, or simply warm water, is all that is necessary. Peas, beans, beets, onions, and corn may be soaked fifteen or twenty minutes with good results.

The manner of sowing seeds depends upon the kind of seed. We favor sowing seed pretty thickly. It is quite common to sow peas three or four inches apart, and as a result few plants and few peas. Our method is to sow in rows three feet apart, and quite thick in the rows.

In sowing carrots, beets, parsnips, or onions, sow thickly; for it is easier to thin out than to transplant. Use the hoe frequently, keep the soil loose, and you will have good crops.

FORCING VEGETABLES is quite in its infancy as yet in this country. The chief trouble is the expense attending it, as it requires hot-beds and an unlimited supply of unfertilized manure, as well as time and some little experience. In forming a hot-bed, choose a southerly aspect, if possible, for the frame. The manure should be placed in a conical heap for a few days, to allow the violent heat to escape; then form it into a square heap about eighteen inches high; tramp it well so there will be no danger of its settling when the frame is put on; cover the manure with about four inches of soil; after a day or two it will be ready to sow seed in. Lettuce can be raised fit for use in ten days in this way; cress and mustard, in five or six days.

THE GENERAL MANAGEMENT OF HOT-BEDS is simply to keep the sash covered at night or during severe weather with boards or straw, and admit as much light and air as possible

on fine days. When the heat declines, it may be renewed by removing a portion of the manure from the sides of the frame and replacing with fresh. Quite a number of vegetables can be grown in hot-beds. Cucumbers can be forced very early, and are much better than when grown in the open air; most gardeners prefer old seed for sowing, as they are apt to run more to vine when the seed is fresh. Rhubarb and asparagus may be forced as early as lettuce, by covering the beds with four or five inches of sawdust or spent tan, on top of which warm and unfermented manure is placed; the whole is then covered with boards to keep off the rain. Asparagus grown in this manner is tender and perfectly blanched; rhubarb is not so tart as when grown in the open air. A cheaper method of forcing rhubarb is to place a half-barrel over the plant, covering the whole with manure.

THE CHOICE OF VEGETABLES for a kitchen garden is a matter of taste. Some can not bear to see, much less eat, cabbage. One of our neighbors to whom we once gave some cauliflower said he thought they were the most tasteless vegetable he ever ate. We prefer the cauliflower, that is, for eating. The cauliflower likes a rich, fresh soil; it can scarcely be too rich; it can not be grown successfully on the same ground for more than two seasons; the proper time for sowing the seed, for the early crop, is about the 15th of September, and for the late crop, the 1st of April: varieties, for early use, the Early Paris; for general use, Hovey's Early American. Carrots require a very rich, deep soil, well pulverized, so that the roots will meet with no obstructions: the Early French Short-Horn is one of the best for forcing, and is of fine flavor; Long Orange for late crop. Celery is one of the most popular of the culinary vegetables; the seed is sown in a hot-bed in March, or in the open ground the 1st of April; when the plants are a few inches high, they will need transplanting, about three inches apart, where they are to remain until July. Trenches for growing celery are made by digging out the soil to the depth of fifteen inches, in which well-rotted manure is placed; if very fresh manure is used, the celery will be rank and pithy; as the plants grow, the earth is drawn up by degrees until the leaves are reached, which completes the operation of blanching: varieties—White Solid, for early use; Turner's Incomparable Dwarf White, one of the best keeping varieties; Laing's Mammoth Red, the largest variety in cultivation, and not liable to run to seed the first season. The culture of cucumbers in the open air is so simple that it is not necessary to give any directions; there are a considerable number of varieties: Early Russian is one of the earliest in cultivation, fruit from three to four inches in length, is ten days earlier than the Early Cluster, and a very desirable variety; Early Frame, an old variety, but a very good one, later than the above; White Spine, a standard late variety. Egg-plant, or Guinea squash, as it is called in Africa: this vegetable is getting more popular every year; it is of very easy culture; sow in the hot-bed about the 1st of March when the plants come up and form the second leaf, transplant them to another hot-bed; to grow them successfully the temperature of the frame should be about 60°: varieties—Early Purple and New-York Improved Purple; the scarlet kinds are only fit for ornament. Kohl Rabi, or turnip-rooted cabbage: this is one of the curiosities of the vegetable kingdom; it seems to be a cross between the turnip and cabbage, the leaves resembling the cabbage and the root a turnip; when young, it is very tender and of a delicate flavor; the best is the Early White Vienna; cultivate the same as cabbage. Lettuce: Early Curled Silesia is the best for forcing and for early sowing in the garden; Royal Summer Cabbage for the second crop. Lettuce requires a very rich soil; its crispness and tenderness depend, in a great measure, on the luxuriance of its growth. Okra or Gombo is another vegetable that should be more extensively cultivated than it is; the seed-pods when young are used in soups, and are also cooked as asparagus; the only varieties in cultivation are the Long Green and Improved Dwarf Green; the seeds are sown thinly in drills, about two and a half feet apart; hoe the same as bush beans. The best early pea is Hovey's Extra Early, and the best late one is Champion of England; Prussian Blue is an old established variety and worthy of cultivation; Bishop's Dwarf Long Pod, early and very prolific; Drew's New Dwarf grows only one foot high, and requires no stakes, is medium in earliness, and very productive. Peas like a very rich soil and good cultivation; they can be sown in the latter part of March, if the frost is out of the ground; a slight freezing in the ground does not injure them. Spinach is a rank

feeder, and unless the soil is very rich it will not be worth cultivating ; for early use sow in March, and every ten days for a succession : varieties—Round Leaf or Summer, for early use ; Prickly, for fall and winter ; the New-Zealand is a good kind for summer use, as it does not run to seed as soon as the other varieties. Tomatoes : sow the seed in the hot-bed the 1st of March ; in April, transplant into cold frames : varieties—Large Smooth Red, one of the best for general cultivation ; Feejee, one of the solid kinds, containing but few seeds ; Cook's Favorite, color deep crimson, good flavor, and very productive ; Tilden's Seedling, dwarf habit, peculiar foliage, early and productive. A new white variety has been introduced, similar to the Smooth Red, curious on account of its color, or rather its want of color. It was formerly thought that the tomato did better when grown in poor soil ; this is a mistaken notion ; the better the soil the finer the fruit. The best early squash is the Early Bush Scallop ; for summer use the Bush Crookneck and Boston Marrow, and for winter the Hubbard. Cabbage : the new varieties are the little Pixie, heads small and tender ; Stone Mason, said to be tender and early ; the Wakefield is the best for early cultivation, heads larger than the Early York ; sow early in March for first crop.

Annual Flowers.

BY WALTER ELDER, PHILADELPHIA.

THE Annuals are more generally grown than the other classes of flowers ; the species and varieties are now so multitudinous, and their beauties and habits so manifold, that they are well adapted for every purpose of ornamentation, and adorn alike the yard of the cot and the garden of the palace. By an all-wise ordination, the various genera bloom at different times, and follow each other in regular progression with profusions of flowers of every color and hue, from the opening of spring to the closing of autumn. The extraordinary improvements which the new varieties show over their original species far surpass the fondest anticipations and keenest conceptions of man. From species of single corolla, with colors uncomely and dim, varieties have been produced with flowers more double than dahlia and rose, and with colors and variegation of colors of the most dazzling brilliancy ; and which retain their beauties three times as long as the ordinary species. Observe the difference between single Queen Margarets and their progeny, the double German asters ; or, to bring the case nearer to ourselves, compare the wild lady-slipper, which grows up at our road-sides, with its offspring, the double-balsam, which adds such splendor to the royal and public gardens around Paris, where it is titled "*Fleur de la Reine d'Amerique*."

Some species are dwarf creepers, others grow stately and erect ; some are climbing vines that ornament our lattice-works with foliage and florescence of great beauty ; some are admirable for their profusions of blossoms, others for their sweet odors. Some thrive best in sunshine, others in partial shade ; some bloom only in the morning, others only in the evening, and are closed through the heat of the day ; while others only expand their blooms when the sunshine is upon them. Anagallis grow two inches high only ; sunflowers grow ten feet tall, and convolvulus major climbs forty feet high. Some bloom best in the cool of spring and autumn, others only in the heat of summer. The seasons and modes of sowing are also various, yet all their seeds are planted of such depths as to accord with their sizes. For example : lupin and sweet-pea seeds are planted two inches deep ; poppy and portulaca seeds are sown upon the surface and lightly pressed into the soil ; in all cases the soil should be enriched and well pulverized, to insure success in germination of the seeds. The concentrated fertilizers are especially beneficial in making a profusion of blossoms.

Class 1st.—*Calopsis*, *silene* (or catchfly), *eschscholtzia*, rocket larkspur, pansy, etc., bloom earlier and better if sown in fall ; they are all quite hardy.

Class 2d.—*Anagallis*, *Adonis*, *alyssum*, *cacalia*, *Clarkia*, candytuft, Grove's love,

Drummond phlox, mignonette, portulaca, etc., being of dwarf growth, are sown in patches; when mixed with others, scratch hollows ten inches wide and sow the seed in them; then cover up and press gently down, and make a small rut around; then write the names upon wooden labels, and stick them in the middle of the patches.

Class 3d.—Branching larkspur, gillia, collinsia, nigella, poppy, sweet-pea, ipomopsis, and others of like growths, are sown in rings or round ruts a foot in diameter. The label is stuck in the circle, and when the plants grow large, a stake or fancy frame is stuck in the circle, and the plants are neatly tied to them as supports and show their blossoms to greater advantage, and have a neat appearance.

Class 4th.—Aster, centaurea, chrysanthemum, marigolds, marvel of Peru, gaillardia, prince's feather, love-lies-bleeding, euphorbia variegata, etc., are sown in rows on a warm border and transplanted singly when large enough.

Class 5th.—Balsam, browallia, ageratum, cockscomb, gillyflower, (ten weeks' stocks,) gomphrena, ice-plant, sensitive-plant, zinnia, maurandia, thunbergia, and the improved nasturtiums, all bloom earlier, longer, and more profusely when sown in cold frames with glass sash and kept very warm until the plants have four leaves; and when large enough, and the soil and weather get warm, they are transplanted singly, except maurandia, thunbergia, nasturtiums, ice-plant, and sensitive-plant. All the others of this class, and those of the 4th class, should always be transplanted singly; the exceptions should be transplanted in bunches with a trowel.

Class 6th.—Morning-glory, cypress-vine, hyacinth bean, scarlet-runner bean, gourds, etc., being all hardy climbing vines, flourish best when the seeds are sown where the plants are to grow. [The seed-shells of cypress-vine and gomphrena (globe amaranthus) are very hard, and should be soaked in warm water, say, blood-heat, for twenty-four hours before sowing.]

The beauties of gardens and parterres are greatly enhanced when the genera of upright growths are neatly tied up to stakes or frames, and there are now large manufactories for making tasteful frames of galvanized wire for supports of flowering plants, and also lattice-work; they are of many forms and sizes, and very ornamental.

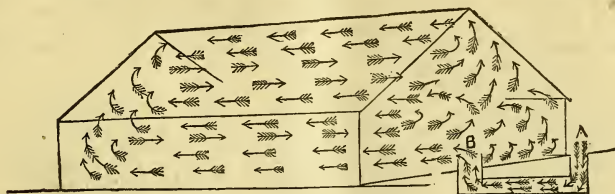
It is also important to arrange the various species in a way that will make a pleasing contrast of the sizes of plants and colors of blooms, but the inexperienced can not know how to arrange them without information. The seed catalogues should have abbreviations of the sizes and habits of all species and varieties, the colors of flowers and their times of blooming. People would then purchase and plant more knowingly, and many more flowers would be grown.

I can not too highly applaud the energies and intellectual endowments which our younger class of seedsmen and florists have brought into play to promote their business and increase a love for gardening, by giving in their annual catalogues fine illustrations and descriptions of new varieties of flowers. In this way all the various departments have risen to a higher standard, and a greater animation has been infused into horticultural science and practice.

Ventilation of Green-Houses and Graperies.

WE propose to speak of ventilation in a horticultural sense, and that branch of it pertaining to glass structures. The majority of such buildings are constructed for the growth of either flowers or fruits during the winter months of the year, and most persons in the management of these structures know how difficult it is to properly ventilate a house during the inclemency of severe winter. The most critical department to manage during the season in question is, perhaps, an early house of grapes. It is similar to a noble bark with all her sails unfurled, riding beautifully over the blue waves of the fathomless deep, with all on board still and calm, musing, perchance, on the serenity of the scene, and of the vast eternity of ethereal matter dissolving in the far distance from the human vision; when lo! vivid, lurid lightning, and a thunder-clap, in an instant burst on the crew and startle them from their reverie. Instantly the ringing

voice of the commander is heard pressing and driving through the howling storm, "Reef sail, 'bout ship!" With daring courage he is obeyed. They stand and watch, and tremble at the awful tempest! Will she go down? this is the momentous thought. Wind and wave have raged, but the noble bark has lived through it. Many times, friend Editor, has your humble servant determined that this should be the last voyage he would ever again take, but the old captain loves the sea and most likely will die on it. Having passed through many a rough ordeal to bring ripe grapes into New-York market by the months of March and April, and having to contend with the present system of ventilation—that is, opening ventilators on the top of the house—it is not only troublesome, owing to driving winds, etc., but we lose through such openings the very atmosphere that has cost so much labor and expense in preparing as the proper food-element on which the vines or other plants to a great extent exist. Reducing the temperature of a house in this manner is nothing more than letting out all the warm, moist air to be replaced with cold. Now, if we could properly ventilate a house that shall be made glass-tight, or without opening any ventilators either in the sides or on the roof of a house, we should, we think, achieve a point worth something, and a matter of invention which, no doubt, some of those devotees to patents in horticultural products would run to Washington with to secure to their own very private interests. We wish such horticultural patentees all the success they can achieve by patents on their flowers and fruits and it won't be long before we shall see them claiming patents for a peculiar style of



knot by which a plant is fastened to a stake! But we will leave for the present the idea of "patents" on the product of the soil in the form of apples and pears, plums and squashes, cherries and turnips, Rose potatoes and *Vitis Labrusca* grapes hybridized with *vinifera* of the order of Hamburg, Chasselas, Muscat, etc. How delicious must a native grape be after working into its name a little of the foreign element! It conveys to the mind such an idea of lusciousness that a "Taylor's Bullet" or a "Charter Oak" would be passed ravenously into the stomach without even a *smell* being had. This subject, however, does not require to be ventilated; but I will now show your readers how a glass structure may be ventilated without openings in the house in the ordinary way. A glance at the annexed cut will convey the idea and principle. It will be seen that a cold-air drain is cut on the outside of the house, at A; should be about three feet below the surface of the ground, and the opening of this drain should be carried about four yards from the end of the house, and the size of the drain twelve or fifteen inches square. The object in sinking the drain is to carry it below the penetrating frost, as the cold air in passing through *unfrozen* ground becomes warm in its transit. The other end of the air-drain opens at any convenient place immediately at the *inside* of the house, as at B. Any common arrangement, such as a board, will answer the purpose of a register, which should be fitted to both openings of the air-drain, in order to control the action of the current of admitted air or to close it up when not required. It will be found by the use of a thermometer that several degrees of difference exist between the air entering the drain at the outside of the house and at the opening on the inside of the house. This, of course, is warmed in passing through the ground. Now, if, when such drain is being formed, five or six small wire-meshes, attached to wooden frames and of a size to fit the square of the drain, be therein placed equidistant, the cold air in passing through them will still be raised several degrees in its temperature. Why this

is so, we should feel much pleased if some of our young gardeners who are posted in natural philosophy would explain ; so the *why* and *wherefore* of this singular effect given to the cold air by the use of merely five or six small sieves, as gardeners will call them, we will leave for the young folks to ponder over. The cold air, on entering a tight house, will put in motion the whole heated atmosphere, and in the manner as indicated by the arrows in the cut. We do not give this to be read as an exhibition of the science of *theory*. We have tested the matter, and therefore call it a *practical fact* in ventilation. Any person who will put it to a test will find the air circulating just as indicated by the arrows. There is no *theory* about this part of the question either ; for, if you stand in the house when the cold air is first admitted, the cold air can be seen rolling along the floor of the house, in what looks very much like a flat cloud of steam, when the stratum of warm or hot air just above it is seen to unite, and the cloud of steam, as we will call it, rises a little higher up, after reaching the end of the house, and so continues this very pretty circulation so long as the cold air is admitted. Now, is not this just as it ought to be ? We avoid all draught and cold streams of icy air through ventilators, and govern our wants and necessities *down under our feet*. But it must be borne in mind that we must not run wild on this subject ; for it is only a *convenience* for a certain period of time. For when the *external* atmosphere gets by solar heat to that degree we maintain in a plant structure, our system of circulation, as previously explained, will cease to work ; but so long as a difference exists between the atmosphere of a plant-house and that of the outside, it will work satisfactorily. As the winter season is the period when these great extremes exist, it is also the time of difficulty with opening ventilators, but the best working period for the plan here suggested.

WHITE PLAINS, N. Y.

JOHN ELLIS.

The *Dianthus* Family.

BY WILLIAM H. LYMAN, LEVERETT, MASS.

YEAR after year produces some new variety of this beautiful and justly esteemed class of plants ; although they have been known for centuries, still they preserve their beauty and novelty. This class of plants was originally a native of Africa, although some claim it to have originated under Italia's fair sky. It was introduced into Spain in the time of Augustus Cæsar, its true origin not being generally known. Shaw, an English poet, who considered it a native of Italy, alludes to it in the following lines :

"In fair Italia's bosom born
Dianthus spreads his fringed ray,
And, glowing 'mid the purple morn,
Adds fragrance to the new-born day.

"Oft by some mouldering time-worn tower
Or classic stream he loves to rove,

Where dancing nymphs and satyrs blithe
Once listened to the notes of love.

"Sweet flower, beneath thy natal sky
No fav'ring smiles thy scents invite ;
To Britain's worthier regions fly,
And paint her meadows with delight."

The *Dianthus* when first discovered had only from four to five petals, the colors being only red and white, emitting a fragrant odor, but cultivation has altered the shades and doubled the petals, so that we now have them fringed ; large and globular ; striped and variously spotted. Many varieties are in general cultivation. Some of the most prominent I will name.

In this class we have the well-known Carnation, and Picotee Pink, and Sweet-William, which need no description, being so familiar with us all. *Dianthus Chinensis* is a hardy biennial of great beauty ; blooms the first season from seed. The colors are



Dianthus Heddwigii Diadematus fl. pl.

rich crimson, often approaching to blackish purple, which are often edged with white, pink, and other colors ; growing about twelve or fifteen inches high. The flowers are perfectly double.

Dianthus Chinensis Heddewigii. This is comparatively a new variety, growing about a foot high and very bushy. Sometimes as many as thirty or forty flowers are at once in blossom. The flowers are very large, from two to three inches in diameter, and of great beauty ; for variety and brilliancy of color no other pink excells it ; the predominating colors are, white mottled with rose, purplish red with dark centre, velvety carmine crimson, dark blood-red mottled and shaded with maroon, and velvety black ; flowers well from seed the first season—flowers double and single.

Dianthus Chinensis laciniatus. A beautiful fringed or cut variety with pure white, flesh, rose, various shades of red, carmine, violet, purple, and rich maroon ; some being self, others striped and spotted ; both double and single flowers.

Dianthus Heddewigii diadematus fl.pl. (Double Diadem Pink.)—This pink is entirely new to this country and is one of the many new varieties of flowers which are being brought before the public annually. The engraving represents three distinct varieties. Not having grown this plant, I am unable to give a minute description of it, but am indebted to the grower for the following description. He says : “ It differs from *Dianthus Heddewigii* by its more luxuriant, compact and dwarf growth, by its leaves, but, before all, by its flowers, which have a diameter of from two to three inches each. The flowers are very regular and densely double, and pass all tints from lilac, crimson, and purple to the deepest black-purple, having very often a velvet-like radiant fire, impossible to be reproduced by the brush of any artist. Each petal is a marvel of beauty in its drawing. The principal and nearly immutable characteristic of them are two mirrors, with more or less distinct outlines, intensely colored, with brighter border or inverse. These mirrors are surrounded by a colored zone, but the toothed border of the petal is nearly always white, or only lightly colored. The flowers are so fine that it is too difficult to describe them.”

The grower has tried to intimate their beauty by the name of “Diadem Pink.” Pinks should never be suffered to remain longer than two years in the ground without either change of soil or situation. They never flower so well when transplanted in the spring ; September and October being the proper time to transplant. If you wish to excel in a fine bloom, a top dressing of night-soil or sugar-baker’s scum should be applied in the spring.

A New Grape—The Cunningham.

SEVERAL horticulturists in the West have called attention to this new grape as worthy of general interest.

It belongs to the same class as the Herbmont, Lenoir, and others peculiar to the Southern States. The following is a correct description :

Bunch compact and heavy, medium, shouldered ; berry small, brownish black, juicy and vinous, free from disease ; vine is a strong grower, healthy, but requires slight Winter protection. Is especially adapted to our Southern hillsides, seeming to love a light limestone soil ; ripens its fruit late, but makes a most aromatic and delightful wine, resembling some of the finest Hungarian wines ; specific gravity of must, from 90° to 112°, according to the season.

The editor of the *Grape Culturist*, St. Louis, states that he has had an acquaintance of over twelve years with this variety, and he is able to speak in its favor, and recommends it for general trial in Southern locations and on limestone soils.



The Cunningham Grape.



Design for a Flower-Garden.

UPON the opposite page, we present a design for a flower-garden, which has the merit of a beautiful simplicity, and yet affords the opportunity of an exhibition of choice taste.

The old-fashioned style of flower-gardening, that of devoting a part of the vegetable-garden, the sides of the paths, or to cut out here and there little squares and triangles of earth and edged with a little box, is by no means the best or most pleasing.

Modern taste prescribes a beautiful lawn in front of or around the mansion, and then to cut here and there on its surface little fancy figures and shapes of earth, and drop in them the precious seeds or roots which are to give so much pleasure by their beauty of form, foliage, and flower.

By reference to the plan here given, it will be seen that a judicious blending of the beauty of the lawn and the flowers planted on its surface is given, while the choice of shrubs, flowers, or bulbs to be planted will give an infinite range for agreeable variety.

If the grounds are large enough, there can be two of this size, one on each side of the house, and planted in different flowers, or even, if there is space enough, the same may be placed between the house and the street.

It is also admirably adapted for a parterre raised one or two feet above the surface of the surrounding ground, and the edge marked with a neat sloping bank of turf.

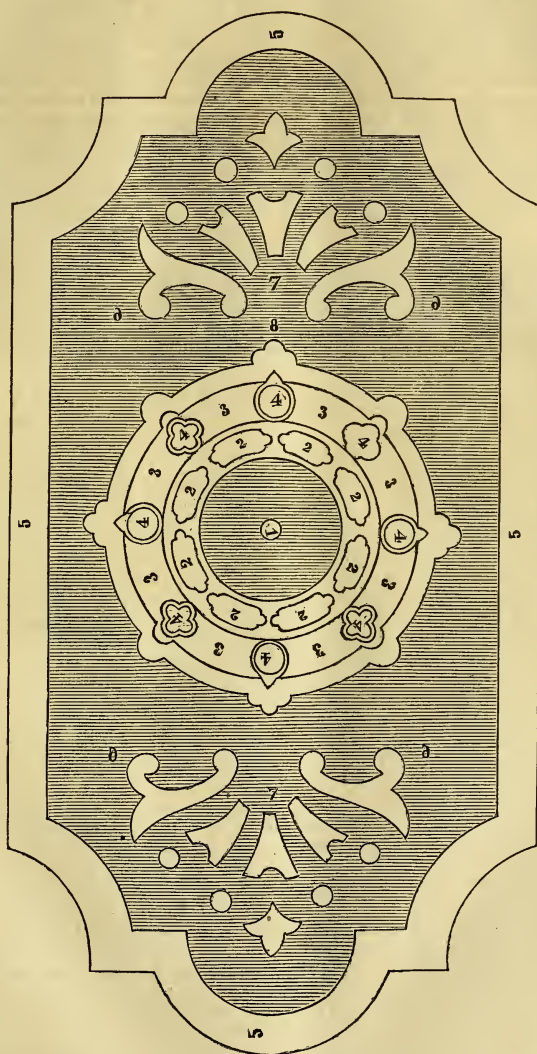
City farmers, who have an extra lot or two wherein they would like to spend a little time in making a miniature paradise of natural beauty, will find this form very suitable, as it can be carried out within the limited area of 50 by 100 feet, and on the outer edges of the walk close to the house or the fence there is room to train a large number of climbing-plants. A tasteful hand will produce from this arrangement a lovely spot which will be admitted the admiration of the entire neighborhood.

We present below several plans in which this design can be carried out: 1. is a grass-plot, surrounded by a curb of stone, with a vase in the centre; 2. are little beds, edged with box, located on the gravel-walk, to be planted with flowers or shrubs; 3. are beds edged with box; 4. are beds a little elevated, with stone curbs, also to be planted in flowers or shrubs; 5. are gravel-walks; 6. is a lawn surrounding the interior beds; 7. is a collection of beds at each end, cut out of the lawn, and either planted in showy bedding-plants or low-growing flowering-shrubs.

An agreeable choice of plants may be made as follows: 1. Place in the vase a number of brilliant *Coleus Verschaffeltii*; 2. Mountain of Snow Geranium; 3. Let this remain in grass; 4. Mrs. Pollock Geranium; 7. Plant blue *Lobelias* in masses.

Or another plan; 1. Instead of the vase, put *Amarantus Sanguineus*; 2. *Salvia Gordoni*; 3. *Dactylis Glomerata Variegata*; 4. Zonal Geranium, incomparable; 7. *Verbenas*.

Still another plan: 1. In the vase put *Achyranthus Verschaffeltii*; 2. Ornamental grasses of tall growth and silvery or yellow foliage; 3. *Tropæolum*, Star of Fire, or Mrs. Pollock Geranium; 4. *Gladiolus*; 7. Parrot tulips.



DESIGN FOR A FLOWER-GARDEN.

Another good plan would be to have no flowers at all, but to take away the vase, put in its place some Pampas grass ; at 2, Cannas ; and at 3, 4, and 7, ornamental grasses of striking habits of growth.

We might continue through the lists of Asters, Poppies, Petunias, Phlox, Portulacas, and other annuals, or the Lilies, Tuberoses, Peonies, Dahlias, and Roses, and make endless variations. It is an acknowledged principle in ornamental gardening, as well as in mercantile business, not to attempt to crowd too much together, but to do a little *well*. This plan does not admit a large *number* of varieties of flowers at one time, but *does* make a very beautiful and charming effect from the *few* that are used.

Our Native Ferns.

FEW of our native wild plants present us a greater variety and interest than our beautiful native ferns, of the woods, lowlands, shaded valleys, and our native hills and pastures. Every one who has walked in our secluded woodlands, with his eyes open, can scarcely have failed of noticing great variety and beauty in these striking forms of vegetation, that show themselves on almost every hand. Go where we will, some one or more of this class of plants is almost sure to intrude its graceful beauty upon the vision ; some in the open pasture, by the roadside, clinging to the face of huge rocks, and others growing in low swamps and shaded situations ; these last offering the most pleasing and interesting specimens.

The beauty and peculiarly graceful outlines of this class of plants have made them favorites with many cultivators ; and in our extensive green-houses are found collections of foreign ferns, most of which are excelled in beauty and interest by our native ones. With the same care and attention, collections of a greater variety and interest might be made from our woodlands and fields, and grown successfully.

For autumn leaves, the various ferns furnish the collector some of the finest specimens to be had, rich in all the varied hues and colors of the changing season. The Polypodium, Woodwardia, Asplenium, Aspidium, and Cystopteris, furnish us some of the most rich and splendid autumn tints and colors, in their native localities ; these all are sought for by lovers and collectors of autumn leaves. But of all the ferns that our woodlands furnish none present greater attractions, or are more eagerly sought for by the collector, when to be found, than the trailing fern, *Lygodium palmatum*. Gray, in his manual, describes it thus : "Very smooth ; stalk slender, flexile, and twining ; one to three feet long, from slender running root-stocks ; the short alternate branches or petioles deeply two-forked, each fork bearing a rounded heart-shaped palmately four to seven lobed sterile frondlet ; fertile frondlets above, contracted and several times forked, forming a terminal panicle."

This variety is rare, in shaded or moist grassy places in New-England, and southward along the coast, or near ; flowers in July. Collectors often err in gathering this too early, before the leaves and fruit are well matured and hardened, so that they do not retain their color at the best. September is as early as it is well to gather, if we wish it to retain its green color to the best ; during this month, before the frosts, its long panicles of fruit—after frosts these are shed—with the trailing stem and slender petioled leaves form a most lovely ornament, after pressing and drying, for churches and parlors, etc. Made into wreaths, hung singly or twined about pictures, and other wall ornaments, or windows and curtains, they furnish a very pleasing and ornamental effect.

The quickest and least troublesome mode of pressing it is with a hot sad-iron, pressing each leaf separately ; smoothing it over quickly not to scorch or burn. By coloring, or varnishing with transparent varnish, it may be kept a long time, and retain its original color and beauty ; but unless so treated it gradually fades, after hanging awhile, and at the end of a year has quite a light brown appearance.

There are quite a number of other varieties of fern which it will well repay the student of nature to gather and study, as they furnish a very instructive and interesting



PRACTICAL HINTS FOR THE GARDEN AND GROUNDS, IN APRIL.

April brings with it its duties and labors, and in usual seasons work in the garden and grounds must be begun in earnest, to be continued till winter drives us indoors again.

He who would enjoy the greatest profit from his garden must make a right beginning. In planting seeds he must make a discrimination, and not treat all alike. Hardy, and tender plants, require to have their seeds planted at different dates, or at least hardy ones will bear to be planted earlier than those less hardy, or tender.

Seeds of such vegetables as the beet, carrot, celery, cress, cabbage tribe, lettuce, parsley, parsnips, onions, radish, peas, turnips and spinach, may be safely planted in the open ground during the month of April; but all less hardy had better, in this latitude, be left till May, as the seed is apt to rot in the ground before germination is completed.

It would be well for the gardener to make himself familiar with the laws of temperature governing the germination of the different varieties of vegetable seeds he has to deal with, before venturing too far in planting, etc. All kinds of seeds will not germinate at the same temperature, neither will all plants grow alike at any given temperature, especially a low one; so that in out-door culture we must always be governed by the season and temperature of the air and soil.

In early open air planting, we should always choose the warmest location, dryest and warmest soil: when a choice is to be had, a soil of leaf mould, sand and loam, is the best; but when such is not to be had, additions should be made such as will tend to lighten the soil, give

it a dark color and porosity, so it may absorb and retain the heat.

All seeds germinate and grow more readily in a light warm soil than in a heavy one—by lightness we mean a mellow or loose soil; heavy, one which compacts quantity in a given space, although there is the same difference in the capacity of seeds pushing their plumules up through the soil as there is in their different requirements of temperature in germinating.

The hot-beds and cold-frames must be well tended to this month; they require much air, partial shading in bright sunny days, covering at night, and a sufficiency of water to promote rapid vegetation, without injury from too great concentration of the sun's rays. Hot-beds, particularly, need close attention this month, as an hour or two of neglect will often destroy the whole labor and expense already expended upon them. Often a few moments, in the middle of the day, with a bright sun, will scorch and destroy the tender plants you have been caring for for so many weeks; and perhaps such a day may be followed by a stinging frost at night, which, if not protected by shutters or mats, will make short work with the plants in the hot-beds.

For the benefit of the inexperienced, we will here give directions for the proper care of the hot-bed, for a single day, which can be followed out daily. Remove the mats, or other covering of the beds as soon in the morning as the sun's rays strike the bed, unless the weather is severe. Again, about 9 A.M., if the sun shines bright and it is warm, visit the beds again; and if the heat is rising in the beds to near, or about 80°, raise the sash a little, and as the heat rises during the forenoon give more air. After the sun begins to decline, about the middle of the afternoon, water the beds with tepid water.

The watering completed, put down the sash close; and when the sun's rays get off the plants, cover for the night with mats or shutters. In mild cloudy weather, very little attention is required except to let off steam and protect suitably at night.

While hot-bed plants should never want for moisture, they should never have too much, as in cloudy weather dampness engenders mildew and decay. As the plants increase in size watchfulness must increase, air must be more freely admitted; weeding is in order at all times, when a weed is to be seen, and encouraging the plants to grow and harden off as fast as is consistent with a healthy growth.

Beds for radishes may be made in the warmest exposure and soil, and the seed sown; but unless you have a good warm rich soil and exposure, there is little use in sowing the seed in the open air till quite the last of the month, as the radish, to be tender and good, must have a quick and rapid growth. Radish seed may be sown among transplanted cabbage and lettuce plants, or the cabbage and lettuce plants from the cold-frame and hot-bed may be set between the rows of radish seed sown, as soon as the weather will permit.

Sow peas, for succession, once in two weeks, planting in drills—the dwarfs in single drills, and the larger sorts in double drills convenient for setting the bushes between; about ten inches space will answer for the brush.

Plowing, digging, and manuring the garden will comprise the greatest part of the labor that can be advantageously done in the open garden, aside from planting a few very early vegetables as here indicated.

During the month, as the weather promises, a few cucumbers, squash, beans, and corn may be started on sods in the hot-bed; cut square pieces, one and a half inches square, and stick one or two seeds in each and bury them, grass down, in the hot-bed soil. These will be somewhat earlier than if we waited to plant in the open ground, if carefully transplanted after the weather becomes settled and warm.

Sow in the hot-bed or cold-frame, seeds of tomato, pepper, egg-plant, and cabbage, if not done before.

Prepare beds, and sow with onion seed, as soon as the soil will admit. Sow in drills one foot apart, covering the seed by sifting a little fine soil over and rolling the surface. The onion will usually do the best when planted on the same ground several successive seasons, if properly treated: they require a rich, mellow soil, free from weeds or seeds.

About the middle of the month, plant out your sweet potatoes for growing—plants or slips. Have a hot-bed prepared, the manure and heating material fifteen inches deep, and covered with two inches of sand and leaf-mold, mixed, or clear sand will do, if inconvenient to obtain the leaf-mould. When the heat has risen and begins to subside, place your tubers thickly

over the bed; and when the eyes begin to show signs of starting, cover the potatoes one inch with your sand or compost, and give them the same treatment you give other tender plants in the hot-bed, and by the first of June the slips will be in prime condition for drawing and setting.

Provide an ample supply of seed, good and fresh, in variety, if not already done. Do not buy seeds because they are cheap in price; for the best are the cheapest at any price, and no economical cultivator can afford to purchase any other; for if the seed is poor, the expense and labor of plowing, etc., are lost.

Set out onions, parsnips, carrots, beets, and turnips, for growing seed for future purposes; give them good generous soil, and a location where they will receive the attention they need, not to be injured or wasted when ripening. Different varieties of the same family of plants for seed should not be set near each other, or they will mix and deteriorate.

Rotation of crops in the garden is as essential as in growing field crops; this can be accomplished with a little care in planning, in not following in the same spot plants of the same family as last grown. However, very much of this necessity for rotation may be obviated by substituting deep, thorough culture, trenching, and heavy manuring.

ORCHARD AND NURSERY.

Spread and dig in manure in the orchard, giving the whole surface covered by the branches a good dressing. Wood-ashes, lime, soda, salt, and potash all are excellent fertilizers to apply to an orchard as surface applications. See that the fences about the orchard and nursery are all in complete order; for often "a stitch in time will save nine" trees, shrubs, etc., from the browsing of stray cattle.

Soon as the leaves begin to start, and often before, the caterpillars will begin to build their nests, if any clusters of eggs have been overlooked. The nests will be seen, very small fine webs, at first, in the forks of the trees and branches. Provide yourself with a fishing-rod and piece of sponge and a vessel of strong solution of soap in water, and when you see a nest, wipe it out, dip your sponge in the soapsuds and wash out the place where the nest was, and several inches above and below; do this early in the morning, before the worms get started out.

Encourage insectivorous birds to nest and occupy the orchard, to aid in destroying insects, etc. Allow no prowling gunners to come into the orchard or grounds to shoot or frighten off the birds, for they do you a greater good than they do you injury from their pilferings.

If new plantings are to be made this spring, prepare the ground at once, if not done before, and plant out apple-trees, forty feet apart, in quincunx order. Plow deep and subsoil, working in decomposed manure freely. Make the

holes large, extending a foot or more on all sides beyond the spread roots; spread the roots well and carefully, fill in the soil close around, pressing firm, so that when the tree is set it will feel firm when taken hold of.

Seeds, pits, and nuts of fruit and forest trees, shrubs, etc., which have been kept in boxes of earth during winter, may be planted as soon as the ground can be prepared.

Finish digging trees from the nursery and heel them in, if not to be immediately reset. Manure, transplant, and fill out vacancies, and clean out all rubbish, ready for other work in the nursery.

Graft with some valuable sort those trees which bore poor and undesirable fruit last year. If you never tried your hand at grafting, observe some experienced grafter, and then try on the branches of some tree that it will not injure, provided the cion does not take.

FRUIT GARDEN.

In preparing new grounds for small fruits, the ground should be well drained, well manured, thoroughly and deeply worked with the plow or spade. And in selecting varieties for planting, it should be done with reference to whether the product is for market or for home use; often a very desirable fruit for family use is a very unsuitable one for marketing. While the Wilson's Albany strawberry is a very good carrying berry, and gets to market long distances in fine order, there are many other more desirable for family use. When we can get a berry with as many good qualities combined as the Wilson, and in addition, suitable sweetness, we shall have as near a perfect berry as any one need expect; and the man who shall succeed in producing it will secure a fortune as well as the gratitude of mankind.

Plant out cuttings of currants and gooseberries in well prepared, rich, mellow soil; see that the soil is compressed closely about the foot of the cuttings; for upon the thoroughness of this mainly depends the success of their taking root and growing. Try a few Cherry and La Versailles currants, if you can afford to give them the needed care and attention; otherwise, the old Red Dutch will stand the greater neglect, and yet do tolerably fair. Houghton's Mountain and American seedlings are among the best and most hardy of the gooseberries. The large English varieties are more liable to mildew and other accidents, and, except in good locations and very favorable seasons, a crop is almost a sure failure.

Raspberries may have their winter covering removed when there are signs of settled weather, and be tied up to the trellises or stakes. Cut off a few inches of the top of the canes, and give a liberal dressing of well decomposed compost manure, which should be carefully forked in around the roots. New plantings may be made, in deeply worked soil, in rows four feet apart, and three feet in the row. Clarke, Brinkley's

Orange, and Mammoth Cluster are among the best sorts. Old vines should have the bearing canes of last year cut out.

Every fruit-garden should have some of the improved blackberries in it; and which are the best depends much upon the locality, soil, etc. Missouri Mammoth, Kittatinny, Early Wilson, and Sable Queen are among the best of the later sorts, hardy and productive. The Mammoth is one of the most gigantic of blackberries. The Sable Queen, sent out by J. W. Manning, Reading, Mass., excels in beauty, size, and fruitfulness the Dorchester and Lawton, and its endurance of the cold of our winters is unexcelled. Plantations in bearing should have trellises to tie the canes to. Wire stretched between strong, firm posts, six feet tall, above ground, makes a very enduring trellis. Use No. 9 or 10 wire, putting one piece two feet above the ground, and the others above it one foot apart. The canes should be secured to the wires with bass-matting or soft twine.

New beds may be made and planted to strawberries, making the soil rich and working it deep. For garden culture, make the beds four feet wide, with eighteen inch alleys; set three rows of plants on each bed, one row in the centre and the others eighteen inches away on either side, putting the plants one foot apart in the rows. Spread the roots well and plant deep, without covering or sinking the crowns below the surface.

FLOWER-GARDEN AND LAWN.

The snow-drops and crocuses are in blossom, while other bulbous and rooted flowers soon follow, and the flower-garden begins to assert its interest and importance. Violets and pansies begin to open their eyes to the spring sunshine in favored localities, and before the month closes the forsythia will be spangled with yellow flowers, snow-drops be replaced by crocuses, to be followed with daffodils, narcissuses, and the early hyacinth. Remove the covering of these bulbs carefully, a little at a time, till all are cleared off, so that the bulbs will harden gradually.

Sow seeds of such annuals as desired, which blossom late in the fall and need a long season in the hot-bed; cover lightly with fine soil, according to the size of the seed.

As the days come on warm and pleasant, the amateur gardener can hardly restrain his enthusiasm, and is very apt to be in a hurry to get his seeds planted, not reflecting that such bright weather is very apt to be followed yet by many cold nights and days, which will destroy all his bright anticipations and hopes of seeds deposited in the soil. Seeds, if planted too early, often rot in the ground; or, if they succeed in germinating, the tender plants meet death from a frosty air. We cannot, therefore, advise the planting of but few seeds in the open air, in this latitude, so early as the month of April. It is better to get every thing in readiness, over-

haul seeds on hand, all garden ornaments and tools that were packed away after being repaired, and decide what is to be added thereto, and at the first opportunity procure the same.

Shrubs may be planted out; and on the lawn, about the house and buildings, climbers add much to the beauty of a place, and often hide a deformity. Trained on fences, buildings, or trellises, they often add greatly to the effect. The Wisteria, Trumpet Honeysuckles, and Trumpet Creeper are among those grown for their flowers, and the Virginia creeper and Ivy for their foliage.

Thin, prune, transplant, and set out such shrubs as have been decided upon or are already in the grounds. Three very pretty and desirable sorts are, *Weigela rosea*, *Forsythia viridissimum*, *Cydonia japonica*.

Deciduous trees, for ornament or shade, may be planted as soon as the ground is open or the frost is out, so that the trees can be well set.

Clean up and do up all neglected work about the flower-garden or lawn, against settled warm weather and a busy season.



WISCONSIN STATE HORTICULTURAL SOCIETY.

THE annual meeting of this society has just closed, and proven, I believe, one of profit and pleasure. The members convened in the rooms of the Agricultural Society—which, by the way, are among the best suit of rooms in the State—on Tuesday evening, the 9th inst., and were welcomed to the hospitalities of the City Horticultural Society, in an appropriate welcoming address by ex-Mayor W. T. Leitch, president of the society. Dr. Joseph Hebbins, president of the State Society, then read his annual address, which drew a pleasant picture of our true work from the Eden of our first parents to the humblest gardener in our midst. Told us what a true garden should be, showing that while it was the first business of mankind, it is still his last as well as the finishing touch of all arts. It was replete with practical and critical notes upon some of our best gardens, in treating that in his opinion there were few gardeners who understood the true meaning of a Horticultural painting, or how to embody nature and true art so as to make a pleasant effect. The president is a wide awake enthusiast on the subject of Horticulture. Grapes are his specialty, fruiting, and thoroughly testing about thirty sorts, and nearly as many raspberries, and this, too, on a single city lot. He urged upon the members the utility of a thorough exploration of the State, with a view of developing its horticultural resources.

Following the president's address was the Secretary's report, briefly rehearsing the labors of the past, which seemed to be satisfactory inasmuch as there had been good progress made in the condition of the society. The account of

the labor performed upon the five acres of experimental garden showed a good beginning in a right direction: that although it was the first year of trial, and the ground was quite new and unsubdued, yet there had been a good degree of progress made, and he thought, and could see no reason, why it would not prove a success. The records show about 3000 plants, trees and shrubs now growing and under the care of the society, and hoped the number would be largely increased during the coming season, and expected there would be some valuable experiments with the small fruits during that time. He also urged the importance of legislative aid, that the society might be enabled to appoint committees for field labor—entomological and botanical—beside carrying on more effectually the work they had already commenced.

Following this, a lively discussion came up upon planting bearing-sized trees which had previously been transplanted in the nursery. Upon this there was a varied opinion, but generally at variance to the idea; and a large majority were of the opinion that good two year old apple-trees was much the best age, believing that in practice more fruit and very much better trees were got in a given time than by adopting the "old tree" system—some nurserymen even going so far as to say they would dig and burn all trees which remained on their hands at four years old. It was claimed that at two years old trees were removed with all the roots; at four or five they were necessarily much mangled in the process; and while the old tree was making up its loss in the root direction, the younger ones had none of this to contend with, and consequently lost no time, but grew right along as though nothing had happened.

A. G. Tuttle read an essay upon "Fruit culture on the timbered land," in which he claimed protection, the great point to keep in the foreground to ultimate success. He thought that water protection was very desirable; and though many thought fruit-growing here was a very precarious business, he did not look upon it as any more uncertain than wheat-growing, and far more profitable.

Mr. Plumb, for the prairies, advocated thorough drainage to the depth the tree roots go—planting in all cases upon high and cool locations. The society recommended the five best varieties for all locations Red Astrachan, Duchess of Oldenburgh, Fameuse, Tallman Sweet, and Golden Russet. These five met with universal support; and we might say that nine tenths of all the trees planted in this State and Minnesota, for several years, of western growth, except the crab-trees, have been of these sorts. Their reliability for perfect hardiness and bearing qualities have become fully established, and unless a larger variety is required, these are the trees sought. List of ten additional sorts were, Sops of Wine, Fall Stripe, (Saxton) St. Lawrence, Perry Russet, Red Romanite, Willow Twig, Blue Pearmain, Plumb's

Cider, Fall Orange, Yellow Bellflower, and Seeknurfurther. Some of these are nearly equal to any in the first list, but less known.

Hislop and Transcendent crops were recommended for general culture. Essay on strawberries and their culture, by Mr. Kellogg, followed by discussions brought out the expression that we had quite too many sorts; and the disposition to confine ourselves to but a very few in the future, and those only of the hardy, vigorous and best bearing sorts was earnestly expressed by every one. The Wilson stands at the head of the list for general cultivation and market. Agriculturist was warmly applauded by the few, evidencing no progress in popularity.

The grape question was canvassed with much interest after the reading of an essay by Mr. Greenman on the subject; Concord for the masses and Delaware almost equal. Rogers's Nos. 3, 4, and 19 were thought well of, had the good qualities in growth of the Concord, and after keeping awhile, as good as the Delaware. The Janesville was spoken well of, and recommended for trial. This is a seedling which received the first premium in 1868, after three successive years on the exhibition tables of the society, as a seedling grape. The grape enterprise in this State is becoming one of magnitude, and many are looking for the best list of sorts for wine as well as table use. Creveling is giving good satisfaction.

Pears received but little encouragement. Flemish Beauty is the only variety that can be planted with any certainty, and even this is not always to be relied upon; for during the last year or two, many trees of this sort have gone the way of all the world. In the interior of the State, the climate is so dry, unprotected and naught to check the dry currents of wind which is always in motion upon the prairie, combined with many other causes of blight and insects, have made the pear-growing almost a seeming failure. Along the lake shore, in the eastern part of the State, it is a little better, but even there it is not encouraging.

Plums found more support, and better success seemed to attend their culture, the great enemy being the curculio; but this was combated with either by jarring the trees or making a hog yard of the orchard; with these remedies thoroughly applied, many were having success. Jefferson and Lombard are first on the list for general cultivation.

The insect question came up, and seemed to be the one and greatest evil of our land, and little encouragement for remedying it could be found. What had been supposed to have been blight in the apple-trees, and so called in the meeting, was corrected by the secretary as not blight, but the result of an insect which eats into the heart or pith, and then either going up or down kills the young wood as far as it goes, being wholly confined to the new or current year's growth. This little fellow is making sad

havoc in many sorts and locations; remedy we have none, as yet.

The English sparrow was highly commended for his insect-destroying propensities, and measures were taken to have them introduced into the State.

There was a fine show of fruit covering a large table, G. P. Pfeffer showing 41 varieties, including 13 of seedlings; J. Gould 14 sorts; D. W. Adams 20 sorts, besides a number of smaller collections. The annual election resulted in choosing Dr. Joseph Hobbins, President; A. G. Tuttle, Vice-President; F. S. Lawrence, Corresponding Secretary; O. S. Willey, Recording Secretary; Geo. A. Mason, Treasurer.

The society is in a very prosperous condition, with a handsome amount in their treasury, and a determination to press forward in their good work. We have no doubt of their ultimate success as fruit-growers.

MADISON, WIS.

O. S. WILLEY.

COMMON SENSE.

PRESIDENT HAMMOND, of the Warsaw Horticultural Society, in his last annual address, December 30, 1868, conveys in a few plain words some sound practical wisdom, worth the attention of beginners in fruit culture. "It is a very prevalent idea that it is the easiest thing in the world to manage a farm or fruit plantation; while it really requires more brains to become a first-class farmer or horticulturist than to become a successful merchant, banker, or artisan. An ignorant, blundering man, may occasionally produce a crop of corn or wheat; but in these days of innumerable insects and diseases, he cannot succeed in profitable growing fruit. Insect enemies will come upon him like the plague of Egypt; the locusts and grasshoppers strip the trees perhaps of their foliage. The curculio will constantly renew its attacks; the birds will appropriate the cherries and early berries.

But the man who would become a fruit-grower, and has not sufficient energy to boldly meet and finally overcome all these obstacles, has mistaken his calling, and had better turn his attention to some other pursuit.

Perhaps a word in regard to the profits of fruit culture may not be out of place at this time. Will it pay, is a question often put to the practical fruit-grower. Can I enjoy the poetry and pleasure the business affords, and at the same time make it pecuniarily profitable? We answer, yes. Still it is our duty to warn the novice of the difficulties he may expect to encounter—for in common with other avocations it has its perplexities. A few years ago a grape mania swept over the country, and hundreds of vineyards were planted in our own country. What is the result? Some were planted on uncongenial soil, others with tender or unhealthy varieties, while others have suffered from mismanagement, so that all have not proved a suc-

cess; yet most of them are yielding their owners a fair profit.

A year or two later every body was planting pears, and many of our fruit-growers predicted that the market would soon be glutted, and prices ominously low. But we have seen that three fourths of the trees planted have failed entirely, and one half of the remaining fourth are in an unhealthy condition. In view of these facts—is pear culture profitable? Certainly it is, to those that possess the requisite skill to make it a success.

He who would succeed as a horticulturist must be in love with his profession; he must adopt it as his business, and identify it with his life. He must be a close observer, possess an indomitable will, and a large amount of patience and perseverance. He must be a man who has learned to labor and to wait. Not to labor for a season—to plant an orchard or vineyard, and then sit down and wait with folded hands, expecting, without further effort, to gain Pomona's fairest treasures. But to labor constantly and earnestly, in season and out of season, firmly believing that the reward will surely come."

LIQUID MANURE.

In the report of the Commissioner of Agriculture just issued, there are some facts given by Wm. T. Rand, as to his experiments in the use of liquid manure. We make a brief abstract. Leaching all the waste soap-suds, slops, and dishwater through fresh barn-yard manure, and then applying the resultant liquid to the soil in his hot-house, it revived and nourished his flowers and plants, and increased the temperature to such a growth of vegetation that it almost seemed the work of magic. By adding one bushel fresh wood ashes to ten bushels of stable manure, and leaching soap-suds through this mixture, the alkali addition had the strengthening effect of maturing the woody parts of vegetation, and diminishing the vine-growing plants. Leaching soap-suds through a peck of fresh hen manure and five bushels of cow droppings yielded a liquid that had a most vigorous effect upon all vine-growing plants, and the contrary result upon fruit-bearing plants.

From a succession of experiments made to obtain a liquid manure, for universal use, Mr. Rand at length filled his hopper with the most varied and promiscuous mass of decaying vegetation and animal matter that could be collected; such as lime, rotten wood, decayed weeds, refuse meats, old bones, iron, ashes, leather, slops, indeed every thing of a perishable nature on and around a farm. The top course of this compost consisted of lime, ashes and sand, for the purpose of keeping the fermentation beneath the surface. In the liquor itself, as it came through; a bag of charcoal was placed to deodorize it. And now, to show the value of the liquid thus obtained, he constructed three beds in

which to grow onion sets. One of these was composed of good soil, into which rotten compost and old barn-yard manure was worked into. Into another bed, phosphates and patent fertilizers were used, and thoroughly incorporated into the soil. And in the third bed the soil was turned up, and to a suitable degree saturated with the liquid manure. The onion sets were planted alike in the three beds. And now mark the result. The soil prepared with the liquid manure was so productive that the onions matured and were eaten in the spring, before the remainder reached a size fit for table use. Parsnips, beets, and cabbages were also tested with similar results.

The greater or less advantage that a soil, saturated with liquid manure, has over a soil made rich by dry fertilizers, depends much upon the season. In a wet season, the advantage would be slight. But in a dry season, undoubtedly the most marked results would be apparent.

NOTES FROM THE FRUIT-GROWERS' SOCIETY, HARRISBURG, PA.

NORTHERN EXPOSURE FOR ORCHARDS.—Mr. Sprout gave his experience in planting an orchard with a southern exposure; it was a total failure. His neighbors, who planted upon land inclined to the north, had gathered fine crops. Mr. Harvey reported that of an orchard of twenty-four hundred trees, mostly in fine condition, but with a southern exposure, not twenty-four peaches were obtained.

Mr. S. W. Sharp reported that peaches in the valleys of Newville failed entirely, while an orchard of his on the North Mountain fruited well.

Mr. Bissell gave an account of the mode of culture in Northern Indiana: The trees were planted in the central part of islands; forest trees were left standing on the outskirts for protection. Trees were headed low, and present the appearance of a bush.

Mr. L. Reist reported failure in lowlands of Lancaster county. Trees planted on highlands did well. Trees that he saw on bluffs of Kansas and Missouri were healthy and productive.

Mr. Bernheisel observed that near the Tuscarora Mountains, in sections exposed to winds, that trees were more productive than in valleys in which the excessive moisture was not driven away.

Secretary Heiges, who has closely observed the fruitfulness of the orchards of York county for the last six years, stated that much depended upon natural position. He would select a northern exposed position if possible, so as to naturally underdrain the trees, prevent "wet feet," and delay blossoming period. If land cannot be naturally drained, would under-drain. Mr. Meehan stated that years ago he had recommended under-draining, but would not do

now. It proves beneficial for a few years, but as the trees grow, the roots extend into the drains and clog them. It is a useless expenditure of muscle and money. Would highly recommend surface draining. Mr. P. Reist had not been instructed by any thing that had been offered to prevent the freezing of peach or apple trees. We must expect a recurrence of cold winters, by which our trees may be killed. Trees like men succeed each other generation after generation. We must plant year after year—plant, plant, plant. We have improved quality, but not vitality.

SOILS—HIGH MANURING.—Mr. Harvey thought we should discriminate between locations and soils before we should advocate culture or non-culture. Some report five crops without cultivation; others know that certain varieties need protection and culture. Many trees lose foliage; we must feed our trees like our cattle, if we wish them to endure the rigors of our climate.

Mr. Kessler had lost some fifteen of his trees by high manuring. Young trees would produce weed, but not fruit.

Colonel Meschert, of Philadelphia, sent manure by the boat-load to his country residence. His trees grew, but he had no pears.

Mr. Sharp reported that Mr. Martin, a successful fruit-grower, of Mercersburg, cultivated very highly.

Mr. Meehan had passed through all these experiences. He thought we must pass to something beyond either soil or cultivation. What was often called "good" cultivation often produced a most barbarous cultivation, and the poorest cultivation often proves most beneficial. He read a letter from James Nelson, who gathered little or no fruit from vines well cultivated: the same vines afterwards being removed to poor soil and planted shallow have borne most abundantly.

Mr. Sprout thought that the wash from roads and manure yards was essential to productiveness. Trees in Susquehanna county on poor soil, devoid of the wash, failed entirely. He manured some of his trees well and they died.

Mr. Parry said: We should go beyond soil or location in our considerations. We should attribute general failure to cold wet weather during blossoming; should not lose sight of good manuring and good culture. Uncultivated and unfed trees might succeed in protected positions, but under no other condition.

GRAPES.—Mr. Meehan said he could sum up his successful grape culture in a few words: Grounds cannot well be too shallow, too warm, too rich, or too dry.

Mr. Calder planted Concords last season on rich bottom lands—did not do well; planted others on thin soil—grew luxuriantly.

Messrs. Cruckwell and Sprout noticed old vines of theirs cracked their entire length last winter—attributed cracking to severe frosts.

Mr. H. Engles reported that H. M. Engles'

Concord vines did very well last season; old vines cracked extensively; thought it was the result of frost.

Mr. Meehan reported failures in lowlands of Berks county, while vines planted on poor highlands fruited abundantly.

Mr. L. Reist planted Delawares on low grounds—failure. His neighbor planted on high position, and his Delawares were perfect.

Mr. Kessler planted a Clinton vine on a stone pile covered with ground. It is the finest vine he ever saw.

Mr. Cruckwell reported failure of Delaware on lowlands, success of Delaware on highlands. Success of Anna and Delaware on lowlands, and failure of same on highlands.

Mr. Meehan is opposed to deep planting, because he cannot drain as well from deep planting as from shallow planting.

Mr. Gross could never get a crop of grapes from a shallow soil; but by getting a mulch of six or eight inches, he can raise crops of such varieties as succeed with him.

WHEN SHOULD WE PLANT OUT EVERGREENS?

THERE are advocates of *three theories*, namely, planting in the Fall, in early Spring, and late Spring, and again others have serious objections to any or all of these plans: one grower says, he would not plant any kind of a tree in the fall on heavy soil, for the trees will often be thrown out by the frost: another says, that if he were to receive a lot of evergreens this very day, in early Spring, he would immediately put them out.

We have had a personal experience with all these plans. We transplanted a fine lot of evergreens (Norway spruce) in the month of August; as recommended by the nurseryman, did what we could to protect them, but when Spring came, they were all dead. We tried early Spring for planting them, but had the same result; at last tried the first two weeks of the month of June, and succeeded admirably. We transplanted some Hemlock spruce in the month of September or 1st of October, taking care to mulch the roots of the trees, after the earth was filled in, these too have kept well.

Hence from our own personal experience, we can safely say that the best time for transplanting evergreen trees is between the 15th of May and the 15th of June; for the hardy evergreens, the month of September or October is good, taking care in each case to *mulch* the ground well, and particularly to see that the trees are well packed and the roots kept moist and unexposed. If the distance of transportation is quite short, evergreens may be safely transplanted as late as the 15th of June; but if transportation is distant, it is better to place them in the ground a little earlier. Choose a wet moist day for digging, and also for planting.

TREE CURRANTS.

EBENEZER AKIN, of Fairhaven, Mass., communicates to the Farmer's Club, New-York, some information as to raising currants like trees. I have a number that are over an inch in diameter. In the spring I take shoots of the previous year's growth, and cut off the buds that would come under the ground when the shoots are set. I cut them so that they will not sprout. I then sharpen the ends of the shoots, and stick them in the ground. Where the buds were cut off, they will send out roots without sprouts. I keep the growing shrubs well pruned. Upon the whole, however, I think the old bush way, with judicious pruning out of the oldest and some of the youngest wood, is preferable. There is a fly that deposits its eggs near the top of the stalk, which eats in and destroys the pith for the whole length of the stalk; but I don't see that it hurts its bearing, only that the stem commonly breaks off where the worm eats out. I see that some one of the club recommended searching trees in the fall and winter for the eggs of the caterpillar. I have only two apple-trees, and when the caterpillar forms a nest on them I take a pole and sharpen the end and wind a rag around it, and wet it well with whale oil or petroleum, and with this I destroy the nest, and it is never rebuilt. I have seen the caterpillars several rods from the trees, crawling on the ground, after being dispossessed by this treatment. These caterpillars are very injurious on cultivated fruit-trees, but the wild cherry and beach plum are their favorites. Some time ago I sowed a little tobacco seed close around the trunk of an apple-tree, and since then no borer has touched the tree. I have bored into the heart of a tree when I knew a borer was at work, and filled it with tobacco. I would ask if a pipeful of tobacco in a tree will injure the fruit. The favorite trees of the borer are the locust and the quince, the latter of which it has almost annihilated in this section. I will state another item. A few years ago a bunch of peach plums, within a stone's throw of my garden, was covered with caterpillar's nests. I poured a little whale oil from a lamp trimmer on a large number of nests, and they were soon all deserted.

MUCH OR LITTLE.—The agricultural press are stimulating the farmers of the United States to devote more of their garden and land to the culture of small fruits for family purposes. This is right; but we must not forget to give credit to another class of the people of the country, who, though they have but little land, still do far more in proportion than those farmers who possess much.

We refer to the mechanics. We have often seen a farmer's garden side by that of a mechanic's. The former was larger than the latter, but somehow as one looked at it, there ap-

peared a great want, hard to describe—the general appearance was bare and plain.

In the mechanic's garden, one could not help being pleased with the disposition to convert every inch of available space into an opportunity for *use* or *profit*. Currants, gooseberries, strawberries, blackberries, raspberries, each had a row, in addition to the space necessary for vegetables; while in the corner or on the edge of one of the borders, a pear-tree or a plum-tree hung over. Even room was found close to the path for some choice flowers and climbers and shrubs. A little garden like this is a perfect delight to one whose ears are tired with the dull monotonous roar of a manufactory ten long hours every day; and the charm not only of novelty but of contrast helps the poor mechanic, and stimulates him to produce results from his little garden which a sturdy farmer of a hundred acres can never bear comparison with.

MRS. PINCE'S BLACK MUSCAT GRAPE.—This new exotic grape, which has been heretofore noticed in our columns, continues to give great satisfaction to English growers. We have a vine of the variety which we hope to fruit during the coming season, and shall then be able to speak understandingly of its merits. A writer in the *Gardener's Magazine* who has lately visited the vines in possession of the originators, Messrs. Lucombe, Pince & Co., says that he can add his testimony to that before given of the superior merits of this new grape. "Not only in flavor, but for hardiness of constitution, and its great merit of ripening without artificial heat; and as to its bearing qualities, it has every year been literally covered with fruit." Mr. Meredith, of Garston, an extensive grower of foreign grapes for market, says, "I have two vineries already planted with it, and shall soon fill another 144 x 26 feet. W.

LARGE MAGNOLIA TREE.—In a letter from M. B. Bateham, Secretary of the Ohio Horticultural Society, he mentions that there is a native tree of *Magnolia acuminata* standing on one side of the lawn in front of his residence, near Painesville, which is the largest and most profitable specimen of the kind that we have ever heard of. It measures fifteen feet in circumference, four feet from the ground, and tapers very slightly for about thirty feet in height, where the first branches appear; the whole height is about seventy feet, with a head in good proportion. It annually produces nearly one hundred pounds of seeds, (nearly the size of small beans,) which are picked up by the children (with some loss by the hens) and sold to nurseries for \$60 to \$75. This fund is divided among the six juveniles at Christmas. This in addition to the ornament and shade makes it certainly a very profitable tree.

ILLINOIS INDUSTRIAL UNIVERSITY.

FROM reports of the annual course before this institution, we make the following notes, acknowledging ourselves indebted to the *Chicago Weekly Tribune*, *Prairie Farmer*, and others.

ORCHARD FRUITS.

Dr. E. S. Hull, of Alton, opened the course for the second week. He took the ground that to have orchard fruits we must have a general knowledge of soils, trees, and their peculiar needs. Orchard fruits have improved from the wild type by cultivation until they present such as we have at the present day in our orchards; this improvement has been the result of long years of culture. The idea that nursery trees brought from a point north of the place of planting are better, he held to be a fallacy; trees grown by forced culture, whether north or south, are equally worthless.

PRUNING AND LOW HEADS.

On account of insects, he recommended heads at a moderate height, and stated that low heads, or those branching at the ground, were a failure, for the reason that they harbor insects, especially the curculio and the codling-moth. Pruning should be moderate, by judicious thinning.

FRUIT-BUDS.

Fruit-buds are killed by the frost by being ruptured at the centre. In the case of peach and cherry buds, this injury is marked by a small black speck in the centre. Leaf-buds contain no elements of fertility and are not so liable to be ruptured. Peach buds are not killed by any specific degree of cold. Good crops have been grown at Alton with the thermometer at twenty degrees below zero; but in this case the buds had not been swelled by warm weather, for when this occurs, a very much higher temperature will prove fatal. Fruit-buds are sometimes changed to wood-buds, or rather some fruit-buds are defective, and they form leaf-buds.

FRUITFULNESS.

A vigorous growth makes tendency to wood and leaf-buds, and these being the most vigorous, the fruit-buds, thus weakened, fail to be perfected. The first growth or development is from the stock of nutriment stowed up in the sap-vessels, enlarging the buds into leaves and sending out spongioles from the roots; after this the food is supplied by the leaves and roots through the spongioles.

ANNUAL BEARING.

The spurs fully developed must be thinned out, leaving the spurs of one year; in this way the crop is lessened, and a moderate crop protects the tree from overbearing, and it is thus capable of producing a fair crop the following year.

LATE AND EARLY BLOOMING.

All varieties reach the same period of blooming and the full development of the pit at the same time, and the notion that early peaches bloom earlier is all an error.

THE PEACH.

The crop must be thinned, so that the specimens will all be fully developed. In good crops, forty-eight to fifty peaches to the box, is one third of a bushel, or one hundred and fifty to the bushel. Those who pay ten cents for a peach may thus have an idea of the rate per bushel that they pay for this fruit at the stands.

APPLES.

In times past this fruit was grown without trouble or risk of a crop; but now, with the new insects, it is a difficult matter, and we must hereafter have a crop of apples at the cost of unceasing vigilance.

PLUMS.

Coe's Golden Drop, Jefferson, and Washington are the best; but Columbia appears almost curculio-proof, and for this reason is very desirable. Plums should be planted on the outside of an orchard to hold the curculio, from which they are shaken into sheets and destroyed.

Mr. Freeman would inquire in regard to changing leaf to fruit buds. *Answer.* The bud is a leaf-bud at all times, and the change to a fruit-bud is by an addition of new forms of growth.

PEACH-TREE GRUB.

This subject was discussed *pro* and *con*. Boiling hot water poured on the roots of the trees was recommended; but the only safe way is to cut out the grubs. Colman, of St. Louis, took exception to the theory of the high tree-tops of Dr. Hull, and would prefer three to four feet instead of five. The tansy plant will keep out the grub; but the remedy is not a profitable one.

Heads of the apple must be of sufficient height to admit of the application of hay bands, as proposed by Dr. Trimble; and also to keep off the curculio by the aid of the curculio-catcher of Dr. Hull.

GRAPE CULTURE.

Hon. George Husman, of Missouri, one of the pioneer grape-growers of that State, and the author of a popular work on grape-growing, addressed the assembly.

He said that old things had passed away and that all things had become new; that railroads and new inventions had made a new order of things. From two hundred gallons of wine, or one even, we now make a thousand to twelve hundred gallons; and now sell hundreds of pounds of grapes to a pound sold twenty years ago.

Wine will make us a more temperate people,

and will drive out the poisonous drinks of the present day. Seventy-five cents a gallon is a fair price for good, pure wine. America will not only grow all the wines that will be required at home, but furnish a large amount for export.

Mr. Edwards would inquire if our subsoil is too tenacious for growing the vine without underdraining. Mr. H. thought that tile-draining would be desirable; that in preparing the soil deep plowing was all that was required, and that trenching with the spade was of no great value over that mode. Good corn soil will grow Concord and Hartford Prolific. Plant Concord six feet in the rows and rows ten feet wide. Concord, Martha's, Rogers's, Nos. 1, 3, 4, 8, 9, and 22, Norton's Virginia, Cynthiana, Herbemont, are among the best. A southern slope is the best aspect. Trains on wire trellis are the best and most economical. It will take an acre of timber to supply posts for an acre of vines, and hence the wood trellis is too expensive for use on the prairie. The trellis has posts every twenty feet, and three wires of No. 12 are fastened to this in fan-shaped form. Do not manure extensively. Surface soil and leaf mould are the best manures. Never seed the land, but keep clean all the season. Use the corn plow in cultivating. In planting, put the lower set of roots a foot deep. To the question, How to keep the grapes best? he said, in the liquid form. Shoot some buds, otherwise they would do much damage. No American grape will make raisins. Dr. Warder describes grapes as: 1. The pulp grape; 2. Liquid grapes, no pulp, but skin, liquid, and seeds; 3. Fresh grapes, or raisin grapes.

DR. WARDER—PROPAGATION.

We may propagate by seeds, buds, cuttings and layers, by stolons or horizontal shoots, which take roots at the buds, the strawberry is an example—by suckers or shoots that start off from some point of the roots, by division of the stems, by root cuttings or pieces of the roots—blackberries are thus propagated; only such roots as have buds can be thus propagated. Seeds are the most convenient, for the reason that they maintain their vitality, some of them for long years, and it is supposed, in some cases, some thousands of years.

Many of our fruit and forest seeds may be dried and sown in the spring; among them some must be soaked in water for days and weeks; others, like the acorn and chestnut, should be planted as soon as ripe and not allowed to become dry. In planting, they must be planted shallow, the surface smoothly raked and rolled.

CULTIVATION.

This object is twofold: one to encourage the growth of the plant by administering air and moisture; and in the next place, to destroy noxious plants that would interfere with the growth of our plants of culture. But we must not cultivate too late in the season, as that might make them tender and liable to injury by frost, or

rather to freezing and thawing, which would weaken their vitality.

SMALL FRUITS.

Samuel Edwards, of Bureau county, read an essay on this subject.

For some years the small fruits were cultivated in Illinois and appeared almost exempt from insect enemies; and as they could be easily protected from cold by shelter and mulching, it is no wonder that these fruits became popular, when we take into further consideration their desirable qualities as food. Now we have a changed climate, and many new insect enemies, that tend to make their culture more exacting.

In the culture of the strawberry, he uses a colter of a bar of iron, half an inch thick and three inches wide, not sharpened. This is used as a colter, having been pointed and drawn through between the rows to the depth of fourteen inches. Strawberries should be mulched after the ground has been frozen, using clean straw or prairie hay.

Mr. Rice, of Champaign, gave an account of how he grew strawberries. Planted four and a half acres of this fruit, in rows three and a half feet wide; would now prefer the hill system. Mulched with four tons of hay to the acre. Clean culture is essential. Had 610 bushels from the lot the second year. The crop is easily grown, certain of a good yield, and thus far very profitable. The formula is simply this: trench-plow the ground a foot deep, make it rich, plant in hills fifteen inches in the row; rows three feet and a half wide; keep off the runners with clean culture, and mulch as stated. It was also suggested to run a Mapes subsoil-plow along each side of the row, as deep as two horses can draw it, occasionally during the summer after the mulch has been taken off, for the purpose of culture.

LIST OF FLOWER PLANTS

THE following list of plants may be sown in April, and will flower from June to September:

YELLOW.—*Oxalis Tropaeoloides*, chocolate-red leaves, very neat for edgings; *Leptosiphon Aureus* and *Luteus*; *Sphenogyne Speciosa*; *Sanvitalia Procumbens*, a half-hardy annual; *Tropæolum Tom Thumb*.

BLUE.—*Nemophila Insignis*; *Lupinus Nanus*; *Whitlavia Grandiflora*, and *Campanula Speculum*.

SCARLET.—*Tropæolum Tom Thumb*, crimson.

PURPLE.—*Linaria Bipartita splendens*; *Iberis Umbellata*; *Campanula Pentagonia*.

ROSE AND PINK.—*Saponaria Calabrica*; *Silene Pendula*.

LILAC.—*Clarkia Elegans* and *Lupinus Venus*-tus.

This list is but a small one out of the thousands of flowers, but the above may be worked up into a skillful flower-bed effect.

EASTERN OHIO AND WEST-VIRGINIA HORTICULTURAL SOCIETY.

A NEW and vigorous Horticultural Society has been fairly inaugurated at Wheeling, West-Virginia, composed of grape-growers and other cultivators of small fruits, mainly in the vicinity of the Ohio river, on both the Ohio and the Virginia sides. At a meeting on the 26th of December, Mr. Thomas Holbrook, an intelligent and energetic horticulturist, was chosen President of the Society for the year 1869, and Lewis Baker, proprietor of the Elm Ford Fruit Farm, was made permanent Secretary. In addition to the grapes, apples, and other fruits exhibited, some very creditable specimens of wine from the Delaware, Ives's Seedling, Creveling, Concord, Isabella, and Catawba were presented. Grape-growing in that vicinity is quite an important interest. The soft or shale lime hill-sides near the river have been found to be just the soil required by the Catawba, as well as most other varieties. There are vineyards of twenty years' bearing which have never missed a crop. Many of the new varieties are doing exceedingly well there. The Creveling is cured of its slovenly habit of bearing loose and ill-formed bunches: thereabouts its bunches are large, compact, superb. The wine presented from the Creveling and Delaware, grown on their warm southerly hill-sides, was of very high character.

PEACH-TREES

EDITOR OF THE HORTICULTURIST:

I AND my neighbors in this section have succeeded in raising regular crops, about every other year, of good peaches, and that, too, where there are no large bodies of water, and not much forest protection.

Now and then there is an old tree left, twenty, thirty, or even forty years old, and as often on a hill and unprotected as otherwise, that bear about every other year, some of them very full crops; while our more recently planted trees, unless thoroughly protected, pretty generally refuse to bear good paying crops.

I feel pretty certain that we have injured, or somewhat impaired, the bearing principle in many of the old sorts, by *continually budding from young trees*. The Old Early York, the Crawford, that used to be No. 1 bearers, are so no longer, and many other old sorts seem to live along the lakes and in peach regions, but almost totally refuse to bear. There is certainly something the matter. The curl of the leaf in 1856 was much the worst on Crawfords and other yellow-meated kinds; in 1867 the yellow-meated sorts pretty generally escaped, while the white-fleshed sorts suffered severely; yet, after all, with me and my neighbors the white-fleshed ones bore much the best.

But this curled leaf, I think, is a transient thing. The great cause of our failures is simply because the trees are not of the right kind.

The stalks are from *late Southern pits*, and of *rampant growth*, not satisfied with our length of summer. This is the cause of the great failure from year to year. One of my neighbors bought and planted peach-trees five times, and five times they have frozen to death, root and branch; while some old trees standing in his garden lived and bore well. A hardy tree is worth more to the world than all the protection peach-trees are likely to get; we should look for signs of hardiness both in stalk and top. We cannot induce early ripening to any favorable extent by summer-pruning; Mr. Downing's plan, of shortening in the last year's growth annually, makes the tree stouter and less liable to break down with ice, snow, or fruit; but it does not make the tree ripen any earlier, or stand the winter any better.

The pruning away of immature wood and leaves, about the first of October, makes the tree no harder; the remaining unripe buds will start the first warm day, and attempt to make more leaves. We can not change the nature of a late-growing tree to make it early. I speak from experience; for I have made peach-growing a part of a business for more than half a lifetime, have traveled the shores of our lakes—Lake Michigan and the State of Ohio—and think I know something of the *favorable and unfavorable surroundings for peach orchards, why we have failed, and how we may yet succeed*.

N. P. HEDGES,
Wales Centre, Erie county, N. Y.

WINE-MAKING AT THE SOUTH.—The comparative advantages of a Northern or a Southern climate, as a section wherein to grow grapes and make wine, have from time to time been discussed, each resident writer of a section claiming his own as best; but we find in a late number of the *Southern Cultivator* the following acknowledgment of a want in temperature for fermentation, which is perhaps honest if not wise:

"On the subject of wine-making I have a fixed opinion, that the late ripening grapes are the best. Our climate is too warm, in July and August, for a regular vinous fermentation; and those who are at all successful add two or three pounds of cane sugar to the juice. I would avoid this necessity by having, if possible, a cooler climate. I have examined a French work of high authority, *Le Parfait Vigneron*, issued by Chapel Rosier and others; and from that work I learn that the wine cellars of France, in which fermentation is conducted, have a temperature of 54° Fahrenheit. And I have tested the water of a well in this place, fifty feet deep, and considered cool to the taste—the thermometer stood at 67°. Evidently, we can not have a fermenting cellar of the right temperature in this climate. I wish to try the cooler season of October, and want grapes that ripen then."

NAMING THE ROGERS GRAPES.

MR. EDITOR: In response to the request of the Committee of the Lake Shore Grape Growers' Association, Mr. E. S. Rogers, of Salem, Mass., has consented to give names to the leading varieties of his hybrid grapes, in place of the numerals by which they have hitherto been designated. He proposes the following, with the remark that the English and German names are of persons who have been eminent either in the botanical or horticultural world, or for scientific and literary attainments, and to whose works he feels much indebted; and the Indian names are those of counties and towns in Massachusetts: For No. 1. Goethe; 3. Massasoit; 4. Wilder; 9. Lindley; 14. Gaertner; 15. Agawam; 19. Merrimack; 28. Requa; 41. Essex; 43. Barry; 44. Herbert.

M. B. BATEHAM, Sec'y. L. S. G. G. Ass'n.

EDITOR OF THE HORTICULTURIST.—I endorse, from personal observation, the correct descriptions of the Crimson Cluster Tomato, and the new Rose, "Gem of the Prairies," as I saw the former in ripe fruit, and the latter in full bloom, on Mr. Henderson's grounds at Bergen.

I have met here in Philadelphia with some other novelties worthy of notice, "*Laxton's Prolific Early Long Pod Pea*"; grows three feet high, needing stakes for support. The vines are literally covered with pods, having ten and twelve peas in each, of fine quality, and succeeding the Philadelphia Extra Early. It produces prodigiously heavy crops. It has been grown here but a year, and but few know of it. The seeds are planted three inches apart, and the rows are three feet apart, thus a pint of this pea will crop as much ground as three pints of other peas.

The Dwarf Waterloo, Late Branching Marrow Pea, grows but fifteen inches tall, producing immense crops of pods, having eight peas in each, and of superior quality. The seeds are planted four inches apart, (as bush beans are,) and the rows only eighteen inches apart, thus a very large crop is produced upon a small space.

In real superior qualities, either or both of the above are unsurpassed.

The "McLean's Advancer" and McLean's Little Gem Pea, are highly commended as being of exceeding excellence, both for their plentiful crops and superior quality.

The "Aquilegia cerulea," a new sky blue columbine, is one of our handsomest hardy herbaceous flowering plants, far surpassing all other species of columbine, both in blossom and foliage. If it bears seeds as plentifully as the other columbines do, it will be very soon distributed over the whole nation. Is a native of the Rocky Mountains and quite hardy.

WALTER ELDER.

PHILADELPHIA, PA.

A FARMER residing in the Western part of Massachusetts had, many years since, an old orchard, many of whose trees were encased in a very rough coating of bark. Their productive days seemed to be over, and the owner was counting upon a good supply of firewood from them the ensuing winter. It was suggested to him that if the bodies of the trees were well scraped, an improvement in yield might result from the operation. Some twenty of them were subjected to a vigorous application of the hoe, and the rough coating thoroughly removed. The ensuing season showed a marked improvement in their production, the credit of which, whether correctly or not, was assigned to the operation of the hoe. The experiment is easily made and the cost but trifling, even should it fail of rejuvenating the trees operated upon.

Literary Notices.

ARCHITECTURAL JOURNALS.—Two new journals, or rather *three* devoted to architectural subjects, have appeared within a short time:

Sloan's Architectural Review.—Published monthly at Philadelphia, is the most prominent and perhaps the best. Although from its nature more professional than for the popular tastes, yet it is well conducted, and always contains valuable matter. It has given some very fine illustrations of churches and public buildings, and the literary matter accompanying is quite full and complete.

The American Builder and Journal of Art.—Published at Chicago, appeared last November. The style of subjects chosen for discussion and the articles written are a little too dry and labored; but the Architectural Designs are of a popular character, and generally pleasing; some are quite extensively copied into Western Agricultural journals.

The Manufacturer and Builder, New-York.—We are frank in saying that we do not like it at all. It is not architectural enough to call it an architectural journal, not mechanical enough to be devoted thoroughly to mechanics. Cover is very homely, and likely to give the reader a very unfavorable impression; the interior is well printed.

NEW JOURNALS.—In addition to our remarks in the February number, we note the following new ventures:

The Southern Horticulturist.—This is a new monthly devoted solely to the horticultural interests of the South, and issued by E. K. Manhard, Esq., Canton, Miss. Dr. H. A. Swazey, formerly of the *Southern Ruralist*, becomes associate editor, and conducts it from his fruit farm at Yazoo. The price is \$2 per year.

The Grape Culturist.—This is an unexpected accession to horticultural literature, and, as its name implies, is devoted to grape culture and

wine making. It is conducted by Geo. Husmann and Charles H. Fring, as associate editors, and published monthly at St. Louis, Mo. The January number before us has many valuable and practical articles from the pens of the editors and contributors; and there is every reason to believe from the abilities of its managers it will have a worthy and decided influence on Western Grape culture.

Weekly Sun.—Though not a new journal of this year, yet by reason of increased enterprise, a rapid advance in circulation and prosperity, and the supply of choice literary matter from the pens of graceful writers, it has a new and acceptable lease of life, with promise of excellent and happy returns. The agricultural department, under the editorship of our mutual friend A. S. Fuller, contains many practical thoughts; and the reports of the Fruit Growers' Club constitute alone a feature of great attractiveness. As The Metropolitan Dollar Weekly journal of the city, its title is well bestowed.

The Central Union Agriculturist.—Is a new monthly published at Omaha, Neb., \$1 per year.

The present number before us speaks well for it. It seems to devote its heart and soul to the express object of forest tree culture and protection on the Western prairies.

PRACTICAL FLORICULTURE. By Peter Henderson. O. Judd & Co. New York

The public expectation of a *good* volume from the pen of Mr. Henderson has not been disappointed. The author seems to be gifted with that happy faculty of "knowing what people want" and "how to supply it." This book, from its nature, never will be to the masses as popular as a picture book of flowers, nor even the showy catalogues of seed dealers; its information is of an entirely different character: to appreciative minds, it affords food for thought; to cultivators, it gives ample directions for successful cultivation of in-door or out-door plants, flowers for the lawn or the Green House, the Hanging Basket or window gardening. We consider it a valuable acquisition to horticultural literature.

THE HORTICULTURAL ANNUAL, 1869. New-York: By Orange Judd & Co.

The principal features to attract attention in this annual are articles from some of the best known horticulturists of the country. That of Josiah Hoopes on the Clematis is complete and valuable.

That by George Such on the Gladiolus is still more interesting, and will be read with appreciation. Francis Brill has a good practical article on Asparagus culture. Apples of 1868, by J. A. Warder, has very full descriptions of the best of the new varieties. Pears of 1868, by P. Barry, is still more full. The various articles which follow from the pens of F. R. Elliot on Cherries, by the Editor on Grapes; by A. S. Fuller on "Small Fruits;" by S. B. Parsons and Josiah

Hoopes on Hardy Evergreens, by John Saul on New Roses; by Peter Henderson on Bedding and other Plants; by J. J. H. Gregory on New Vegetables, combine to make up a very faithful record of American horticulture for 1868. The *Annual* is worth its price.

THE MULE. By Harvey Riley. Philadelphia: Claxton, Remsen & Haffelfinger.

A very sensible book. In regions where the mule is appreciated, his real value is far above that of the horse. A prejudice exists in many minds against the use of the mule, because so obstinate; but if they would only read this book and learn the nature of the mule, as well as the proper method of treating him, they would find occasion for holding him in higher estimation. For all farm labor, for heavy mechanical use, for patient plodding, straightforward steady work, the mule is far superior to the horse.

The interest in reading this book is greatly increased by observing the numerous illustrations.

IOWA AGRICULTURAL REPORT FOR 1867. By W. W. Beebee, Secretary. Des Moines.

This volume, though late in issuing, will repay even the most careless glance at its contents. There are many excellent articles here, such as those on "Evergreens," "Transplanting," "Hedging," "Pruning," "Raising Forests," "Orcharding," and "Fruit Culture in Iowa." Grape culture and other kindred subjects are particularly interesting and valuable. We can recommend it to public attention as a valuable addition to an agricultural library. The Society is doing a good work, and has the elements of a great prosperity.

DISEASES OF THE SHEEP. By Henry Clap. Philadelphia: Claxton, Remsen & Haffelfinger.

A sheep farmer ought to find here information enough to cure all the ails of his sheep flock as long as he lives. The book appears to be exceedingly practical and carefully written.

DIETZ'S FARM JOURNAL is the name of a new monthly journal started by G. A. Dietz, Chambersburg, Pa., in which is recorded tests and experiments in all kinds of grain, vegetables and some attention to diseases among cattle. With only one number before us, we consider it a valuable and practical aid to the grain grower, the only fault being its necessary connection as an advertising medium for the proprietors own grain.

THE GRAPE GROWERS' GUIDE is a little pamphlet of 15 pages, issued by J. Keech, Waterloo, N. Y., intended to grasp the subject of grape culture and simplify it to ordinary cultivators. The work is well done as far as it goes, but is not complete. On the subject of pruning and training, we think nothing has yet been produced in this country equal to Fuller's Grape Culturist.

NURSERYMEN'S CATALOGUES.

WE have received quite a large assortment of catalogues this year from our friends the seedsmen and nurserymen, and in glancing at their contents, we repeat what we have often said before, that they are a valuable addition to horticultural literature; we know of course that they are only advertisements of the proprietors' business, so much per plant, so much per packet of seeds, but really are advertisements worthless? On the contrary they are a necessity, and an agreeable one. The value of a catalogue is in its *practical nature*. What a relief it is to a perplexed mind, endeavoring to conjure up a good selection of varieties to plant in his garden or on his farm, to pick up a good catalogue from some reliable man, and there find in detail good descriptions of all the different kinds, and good advice as to their choice.

Still further, to find common sense directions how to plant and cultivate them well and gather the crops.

With the increase of the lovers of horticultural literature, the Catalogues of the Business fraternity seem to increase in beauty, taste, and size. Here are three directly before our eyes, Washburn's, Hovey's, and Bliss's, all handsomely bound in cloth, and graced with expensive colored illustrations of Lilies, Gladiolus, or engravings in abundance of choice flowers and vegetables.

The fruit catalogues of Ellwanger and Barry, Wm. S. Little and F. K. Phenix, are instructive in their hints as to the cure of fruit-trees; so too those of Purdy and Johnson, and Parry, and Knox in the care of small fruits. Peter Henderson's Catalogue of New Plants keeps us posted in Floricultural matters; while James Vick's welcome Floral Catalogue increases in beauty, enterprise and interest year after year. Truly we are doing no injustice to other craftsmen to say that it is the handsomest of its kind in the country. Gregory keeps us well informed in vegetables; and Thorburn, Dreer, and Landreth are standard guides both in the trade and among cultivators.

If there is one point on which we could suggest an improvement, it is that in the description of varieties the writer of the catalogue should not endeavor to get off as glowing and favorable a description as possible, but to aim to give as *honest an opinion* as possible. It is natural for a man to praise his own wares; and if he is a large dealer, having the "largest stock in the country," it would be absurd to praise every article, for common sense will tell any one that they can not all be *best*. Cultivators would like the dealer to specify more by numbers or order what is the best choice, than to attempt to sell all. We have always liked Thorburn's, because they aimed to help the cultivator make a selection; and Landreth's also, because with as little self-praise as possible, they aim to give the result of experiments on their own farm. The

country now-a-days wants fearless men, who will take all the novelties, try them, and expose the worthless, and justify the praises of those found good. A word of caution. 1st. Do not send off any poor seed, nor old seed—50 cts. worth of seed saved this year, by passing off an old article, will most generally cost the dealer the loss of all the future trade of one man; 2nd. Never send off a poor plant to any one, either as a sale, or as a gift.

We purchased last fall over 400 pear-trees from one nursery firm, represented first-class. When they came, all were undersized, the stocks old—but grafts young—and generally a third-rate selection. We immediately returned the whole stock to the nursery from which they came, and compelled them to make them good. We advise all fruit-growers to do the same. In addition to the catalogues briefly noticed above, the Editor has received the following catalogues and pamphlets:

Catalogue of Flower and Vegetable Seeds.—Henderson and Fleming, New-York.

Catalogue of Flower Seeds.—A. Bridgeman, New-York.

Catalogue of Small Fruits, Roses, etc.—J. B. Cline, Rochester, N. Y.

Catalogue of Trees, Vines, and Shrubs.—J. W. Manning, Reading, Mass.

Catalogue of Arnold's Canadian, Hybrid Grapes, and Raspberries.—Charles Arnold.

Paris Nurseries.—Paris, Ontario, Canada. Circular of wholesale prices.—William S. Little, Rochester, N. Y.

" " " " Ellwanger and Barry, Rochester, N. Y.

" " " " Hoopes Bro. and Thomas, Westchester, Pa.

Vick's Illustrated Catalogue of Bulbs.—Rochester, N. Y.

Old Colony Nurseries' Catalogue.—B. M. Watson, Plymouth, Mass.

Calendar and Seed Annual.—Maupay, Hacker & Co., Philadelphia, Pa.

Catalogue of Flower and Vegetable Seeds.—James Sheppard, New-York.

Report of Wisconsin State Horticultural Society, 1868.—Madison, Wis.

Transactions Massachusetts Horticultural Society, 1868, Boston, Mass.

Physical Survey of Virginia.—By M. F. Maury, 1868. Richmond, Va.

The Charleston Phosphate Beds.—Ashley River Phosphates. By N. A. Pratt, Oglethorpe University, Ga.

Circular of the Marengo Winter Crab Apple.—C. Andrews, Marengo, Ill.

Transactions of the California State Agricultural Society, 1866 and 1867.—Sacramento, Cal.

Bricksburg Nursery Catalogue.—Calkins and Brooke.



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No. 275.

Practical Hints to Fruit-Growers.

BY H. T. WILLIAMS.

No. 5.—*The Renovation of Old Orchards.*

THE fact is too plainly apparent that, throughout our Eastern and Middle States, there are to be found immense numbers of orchards whose days of usefulness and productiveness are apparently over, and the trees in a state either of neglect or rapid decay.

The eager inquiry continually comes up in the journals of the day, or at the discussions of horticultural societies, *can they be saved, and how?*

We are among those who believe that if a tree is rightly planted, and carefully protected from insects or cold winds, judiciously pruned, and at proper times, using liberal quantities of manure, no fruit-grower will ever have occasion to utter the oft-repeated complaint, "*My fruit-trees are dying out.*"

We think that the causes of the decline and decay of all the old orchards, which once were such a pride and a glory to our country citizens, are not attributable to atmospheric influences, or a changed climate alone, but chiefly, yes, almost solely, to *man's neglect*.

If growers would only cultivate their trees as well as their gardens, how little would be said as to the decay of our orchards.

But having a poor orchard on our hands, how shall we treat it?

1st.—Let every farmer who has a poor decayed, diseased tree, take a ladder in one hand and a pruning-knife in the other, climb up into its branches and cut out all dead or diseased limbs, leaving only those which are perfectly healthy; next with a hoe or rough iron instrument scrape thoroughly the rough, coarse bark up and down several times, then wash thoroughly either with water containing a solution of potash, or with the lye from wood-ashes; go down still deeper and dig up the ground immediately around the trunk of the tree, and clear out all worms, all dead and diseased wood and roots, turn up well every inch of the soil under the tree and beyond the edges of its branches. At a distance of six or eight feet from the trunk of the tree, or immediately under the edge of the branches, dig a deep trench two feet deep and as many wide, entirely around the tree, and replace with fresh rich earth from another spot, well mixed with manure or rich earth; every fall top-dress with well rotted manure, and every summer mulch the ground all around well with coarse hay or litter; get wood-ashes at any cost, at first outset, and apply liberally under the tree at time of first stirring. When shortening in the roots, also thin out the head of the tree, but under no circumstances lop off large healthy limbs here and there, nor

prune carelessly and recklessly. Keep the ground between the trees well cultivated, and entirely free from grass, and the grower who has the patience to wait as well as the energy to renovate thoroughly will find his orchard again returning to thriftiness and productiveness to a degree that will gladden his eyes. Although a renovated orchard can never have the prospects of life that a young orchard possesses, yet for five, six, or ten years an old orchard rejuvenated can be made to produce sufficiently remunerative returns. After that time, if still failing, cut them down, for they cumber the ground, and replant with young trees.

2d.—Another method, and an eminently successful one too, is to *regraft the stock with other varieties*. It is certainly far easier to cut down and despoil a tree than to replace one. So long as the tree is not radically diseased or rotten, but simply neglected, moss-covered, and unpruned, its fruit likewise degenerated until all its characteristics of size, form, color, and flavor are changed, these trees may by judicious methods be so restored as not only to be profitable in their own fruit, but as stocks for grafting, forming, if desirable, entirely new heads. We remember several orchards thus treated. There were two orchards twenty to twenty-five years old, merely divided by a division fence, the general condition being precisely the same—the fruit in all its varieties being of the least possible value, extremely small, knotty, and bitter, almost unrecognizable. At last one of them was rejuvenated by trenching, special manuring, cleaning the bark by scraping, washing, etc., and one-third of the top *regrafted with choice kinds* every year, until the whole was done. A complete and thorough change took place; nothing could exceed the health of the new wood and grafts, while their growth and maturity was extraordinary; the foliage, which before was small and sickly, and usually fell off at mid-summer, changed in every particular, becoming large, green, and full of vigor, while their neighbors, on the other side of the fence, left untouched, resigned to nature's skill and the friendly offices of grassy roots, were denuded prematurely of their leaves, seared by neglect, and died.

A practical fruit-grower, who was asked the question whether it were best to plant a new orchard or to renovate an old one, replied, "I should say renovate the old one first, by all means, because your labor can be made to pay a great deal quicker on the old orchard than on the new." Newly-grafted trees will begin to bear in three or four years, and continue to increase year after year; while the improvement of the stock and varieties of fruits in the orchard will be a most valuable item. Old orchards that are allowed to run to grass should be dug up every season; and if the whole orchard can not be cleared of the grass, do it certainly as far out as the branches extend. If the orchard is near the pig-pen or poultry-yard, let them have free run of the orchard through the warm season, for they will eat and destroy most of the windfalls under the trees, and also keep the soil well stirred in search of worms. *Scraping the trees*, too, at times of pruning, is also important, and all moss or rough bark should be entirely removed. This can be done best directly after a heavy storm, as the bark and moss will then be in a right condition to come off. After this cleaning, a wash made of wood-ash lye, or pot-ash water, should be put on the trunks and large limbs, which will kill all insects and larvæ, giving to the bark a smooth appearance. Old trees should not have their tops all removed at once, but gradually, say one third every year, cutting off the southern portion first. Pruning should be done regularly every year, and then only small limbs; all the tools necessary are a sharp hand-saw, a fine pruning-saw, and a pruning-knife.

The *apple-tree borer* can only be eradicated successfully by hunting him to the end of his hole with a fine wire, and killing him: frequently the trunk is covered for a foot above and below the surface of the ground with paper tarred or smeared with tobacco, and has proved a good remedy; but it needs removing every year, and does not prevent the borer from burrowing into the crotches of the tree higher up. A vigorous personal inspection of fruit-trees at least three times during each growing season is the only method for perfect freedom from insects.

3d.—Fruit-growers too often neglect the importance of *draining*. Many orchards we have seen located in wet lands, full of superabundant moisture, clogging up the tree and inducing disease. By draining the same, the trees have been brought back to fruitfulness, the ground made drier and more porous. Draining prevents too succulent a growth, and makes better, sounder wood. Clay lands ought always to be drained if they are used for orchards.

4th.—Another successful method of treatment is in supplying abundance of *natural manure*. If we could advise all the fruit-growers of the country at one grand mass-meeting, we would say, plant your trees on *new* land ; and secondly, manure with *natural manures*. By this we mean leaves, leaf-mould, wood manure, decayed forest earth, and wood-ashes. It is no cause for wonder that so many of our fruit-trees fail, because they have exhausted from the soil all the possible elements they could obtain for their support ; and if their roots are clogged up with an immense fibrous mass of grass, disputing the sovereignty of the ground and extracting all that it possibly can find, we need not stop to consider “scientific truths,” for practice will tell us too plainly the policy of “grass in orchards” is a source of deep injury. It is a good axiom for any fruit-grower to follow out, “*when fruit-trees occupy the ground, nothing else should.*” Protect your trees against prevailing winds, examine constantly for worms or insects, keep pruning off all unhealthy limbs, repay to the tree every year something to compensate it for its bountiful crop, and we may all yet see our orchards gladdening our eyes with branches laden *deeply down* with delicious fruit, and the “*dying-out day*” still be far in the future.

No. 6.—Fertilizers for Strawberries and Small Fruits.

WE should as soon grow a corn crop in a forest as to expect a good strawberry crop without the use of manures. We are aware that many believe in letting the blackberry find its nourishment where it can, and it is pretty generally known that it will thrive well on soils where no other fruit can grow ; but this does not alter the fact that judicious fertilization on any soil whatever returns back to the giver abundant crops of fruit over and over again. The editor has frequently noticed the shabby treatment of strawberry patches here and there throughout the country, and has watched the progress of some of them from the time of planting until fruiting.

In nearly every case where manuring or cultivation was neglected, the crop of fruit was small, and the price realized very low. While, on the other hand, wherever the fruit grounds were well manured and cultivated, the berries were larger, sweeter, better picked, and brought a better price in market. Hence, we say, *it pays to manure all kinds of small fruits liberally*. It will never pay a man to trust to the natural fertility of his soil.

Wherever a grower can command a good quantity of stable or barnyard manure, let him apply it broadcast before planting, or as a mulch over the plants during the winter ; but where this is scarce or dear, other articles must be used. All fertilizers containing *potash* are splendid in their effects. A pound of potash dissolved in a barrel of water will make the runners grow amazingly.

Wood ashes unleached are, without doubt, the very best concentrated manure to be found. We saw a remarkable instance of this last summer, when a number of runners cut off from the parent plant happened to be planted in a field just where there remained the ashes of a bonfire ; before the end of the summer, the runners were larger than their parents. Since then we have bought up all the ashes we could find, and consider them cheap at twenty cents per bushel.

Next to *ashes*, *pure bone-meal* is a good article.

We experimented last year with bone-meal and several superphosphates side by side, and the bone-meal produced marked effects of superiority over the other—the price, too, is from \$10 to \$20 less than the other article. Superphosphates vary very much in their effects ; some are excellent articles, others are quite indifferent. It will pay any grower to use a good superphosphate on any of his fruits.

Frequent application should be made. We applied last year three doses, each of 700 lbs. per acre, scattering directly upon the plants. After the first year of bearing, only one application will be necessary, namely, after fruiting.

It is not best to use highly prepared ammoniacal manures. Those fertilizers containing soluble phosphates are sufficient.

We believe that pure bone-meal and wood-ashes will produce stronger, healthier plants, and a greater abundance of good, solid, well-flavored fruit, than any thing else in the world. We advise growers to get all they can and use them plentifully.

Distances between Orchard Trees.

I SEE by a late number of the *Western Rural* some enthusiast takes THE HORTICULTURIST in hand for certain instructions upon this subject. "Buckeye Boy" seems alarmed lest his efforts come out cider, which certainly would be bad. But we are not so much alarmed at the too close proximity of trees in the orchard. Indeed, one of the very best faults which befalls an orchardist is this same too close planting, especially upon the prairies or other windy exposures. The West is being taught protection in all its beauties, from the most expressive and elaborate modes to the simplest and cheapest which is within the reach of all. An extensive grape-grower here, a short time since, being asked what was the best protection he would give his vines, answered, "Grape vines." The idea was, that upon the outskirts of his vineyard he would leave a row unpruned, simply training it upon a trellis, and this in mass would form his best protection. The same may, to a great extent, be said of an apple orchard: plant close, the first ten years there will be no trouble for room, then, as space is required or the tops begin to interlock and crowd, alternate trees may be removed. In this way half the trees protect the other half, which half are in a thrifty, good condition, and meanwhile gaining strength and hardiness to endure the more bold exposures incumbent upon them after the thinning process has commenced. "Buckeye Boy" must remember that Flushing is not all the world; that we in Wisconsin, in fact all west of the lakes, have winds and storms to contend with that our neighbors "across the waters" (lakes) know nothing of. The State Horticultural Society recommend planting trees *not over* twenty feet apart, and some members are planting much nearer than this. We know one orchardist of 4000 trees commenced at thirty feet apart, and now is planting but little more than half this distance. And he assured me but a few days since, the close planting is much the best. Extremes there may be, but no fruit-grower in Wisconsin will regret planting his apple orchard from fifteen to twenty feet apart. And if he has some of the fast growing deciduous trees, like soft maple or elm, to intersperse among the apple-trees, then to be removed as age and size should demand the room, he can use them to good advantage in this way. In a prairie country the trees thus planted and removed will be worth for fuel at least the first cost, and probably much more.

O. S. W.

MADISON, WIS.

A French Roof Suburban Residence.

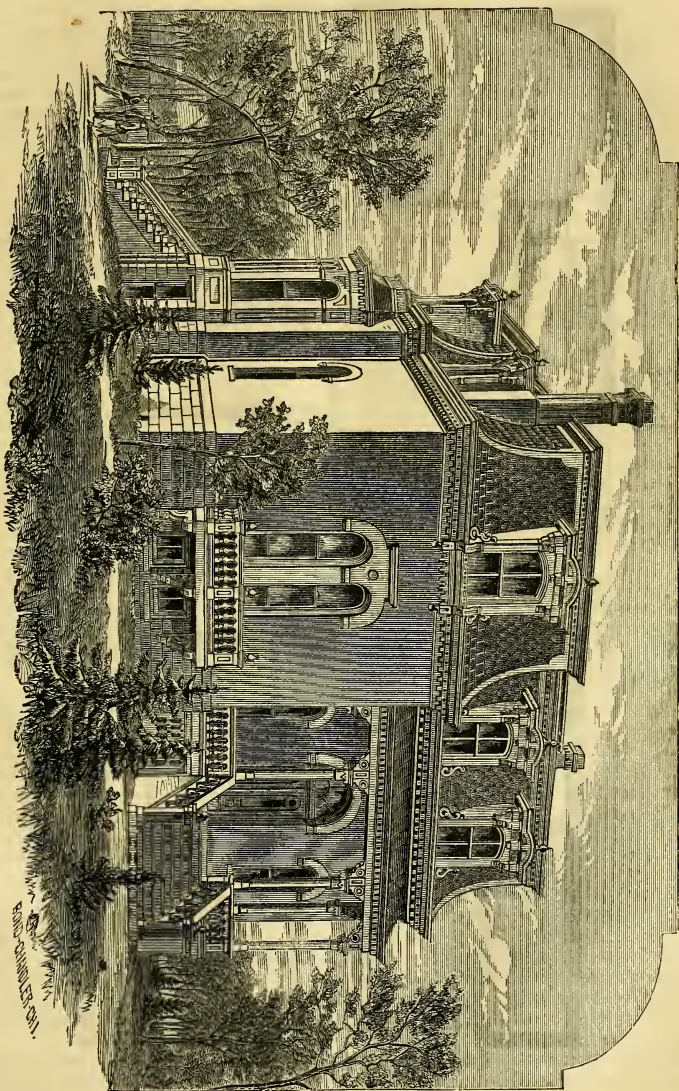
THE French roof style of housebuilding has become so suddenly and widely popular that it is not strange many blunders have been made, and many very ugly residences erected. We can call to mind, in the neighborhood of New-York alone, a village which caught the fever just after importation, and every one who wished to build considered that the only fashionable style, and would choose no others. Country carpenters, with no more ideas of taste and fitness than a dumb animal, conceived plans of the most *outré* character, and, when completed, a collection of more ridiculous houses never was seen. The finest example of the French roof—or, as it is better called, the Mansard roof—in this country, is that on the Metropolitan Savings Bank, opposite Cooper Institute, New-York; a more beautiful specimen one could hardly ask for.

The French roof is adapted chiefly to city uses, either for public or private purposes; and if good plans are used, an exterior ornamental effect and an interior convenience can be produced unequaled by any other style of architecture. For suburban purposes it is pardonable, if tastefully carried out; but for the country generally, wholly incongruous and inappropriate.

The French roof is perfect only when complete with a railing at the top; without this, it is a nondescript; with it, it possesses beauty and dignity.

The illustration we present this month, designed by G. P. Randall, of Chicago, Ill., is one of the very few cases we have seen where a house with this form of roof is made to look pretty without the railing. The building is intended to be constructed of brick, with the Mansard roof sloping easily inward, and consisting of two floors and a base-

PLAN FOR COUNTRY RESIDENCE, DESIGNED BY G. P. RANDALL, ARCHITECT.





The Principal Floor.



The Basement.

ment. The ground area measures 38 by 45 feet, and the following description of the rooms corresponds with the plans given :

BASEMENT.—A, wood and store-room ; B, vegetable cellar ; C, dining-room ; D and E, china closets ; F, passage ; G, pantry ; H, kitchen ; I, hall.

PRINCIPAL FLOOR.—L, piazza ; M, hall ; N, parlor ; O, dumb-waiter ; P, passage ; Q, bedroom ; R, closet ; S, sitting-room ; T, hall ; U, bedroom.

The cost of this house will be \$10,000, according to the ground area given. The same shape of house can be preserved, while the dimensions may be increased and more rooms or other conveniences added ; but the general plan is one of taste and beauty.

The White Birch.—(*Betula alba*.)

BY W. WAYBRIDGE, ESQ.

" Not distant far, the birch is seen to rise."—DELILLE.

IN setting out your ornamental trees, pray do not overlook my favorite birch. It is the "lady tree" of the American forest, and deserves from me a word of commendation. Slender, lithe, and graceful, it lifts its fairy form in charming contrast with the sturdy oak and sombre fir, imparting life, variety, and beauty to the grove. Ten thousand sweet associations cluster round this elegant and decorative tree ; and the sight of it in my travels always brings distinctly to my mind the dear and hallowed scenes of early home. On the margin of a streamlet, stored with pickerel and trout, which swept along beside my father's humble dwelling, grew a clustering row of tall and thrifty birches. [*B. populifolia*.] My earliest recollections linger with them, and their beauty haunts me still.

" There broke the light upon my early view,
There first my beating heart to pleasure flew."

Well I remember with what exquisite delight I used to pick the pendent "tassels," or watch the swelling of the buds, or the opening of the delicately tinted leaf in spring-time. The twigs I cut for fagots, the delicate rind I peeled for "boxes" or for "torches." In the long summer days, I used to sit and gaze upon the glossy, trembling leaves which danced as broken waves of ocean in the unnumbered gleams of sunlight, or, stealing quietly beneath the shade, entice the speckled trout from the deep pool the brooklet made in sweeping round a granite rock impeding it. The early falling of the "sere and yellow leaf" into the stream reminded me that the "eventide of the year" was coming ; and the twigs glimmering as gems in crystal screen to me betokened the immediate presence of the stern winter-king. Long since that beautiful line of birch has disappeared, a few decaying timbers indicate the site of the old mill ; but the stream, by reason of the clearings at the source, has dwindled to a little rill too slender in summer even to afford the trout and pickerel a comfortable hiding-place. Yet the lessons which those fresh and graceful birches taught me perish never. The birch is therefore my sylvan goddess, my arboreal monitor, my "affinity ;" it taught me botany, poetry, philosophy in my boyhood ; it has ever met me as a dear old friend along the checkered pathway of my life ; it even now is sending forth its "fragrant flame" to cheer my study while it tells of it.

This tree thrives alike in the lightest and the heaviest soil ; it holds to life with fierce tenacity, and attains to its full growth in twelve or fifteen years. It is a profitable as well as ornamental tree. Of its stem, strong brooms and baskets, shoe-pegs, clothes-pins, chair-bottoms, mattresses, pen-holders, and buttons are manufactured ; the smaller trees are used for hoops ; the branches, to say nothing of the twigs for discipline, make good cords for building fences, and the wood affords most excellent charcoal. The bark (*B. papyracea*) is used for covering buildings, for making paper, and for the construction of the "light canoe." The white rind of the bark is used in tanning the well-known Russia leather red. A wine is made in Scotland from the sap. Thus, like the camel, every part is valuable. So then for the sake of the utility, if you can not with your uncle Waybridge see the beauty, please plant the birch.

"BRIGHTSIDE," N. BILLERICA, MASS., March 4, 1869.

The Stark Apple.

BY C. M. HOVEY, BOSTON, MASS.

IS the Stark a new apple? Shall we accept it as such, or shall we doubt the accuracy of the statement? We are all familiar with the many errors of this kind which have been prevalent for years, and which have done much to disappoint cultivators, and annoy them so greatly, that many refuse to try a really new and meritorious fruit, fearing it may be an old sort under a new name. The Putnam russet is a well-known instance of the pertinacity with which an old variety was claimed as a new one, and the Hunt russet is another.

We never heard of the Stark apple till very recently—perhaps unpardonable ignorance—as it appears a description was given of it in the *Prairie Farmer*, by Dr. Warder; but as we look to horticultural and pomological works as the legitimate sources of information, it escaped our notice.

At the late meeting of the Committee of the American Pomological Society in New-York, several specimens of apples were exhibited under the name of Stark, with a long account of it by some one who was introducing the apple. We were quite surprised to recognize a very old acquaintance, the Pennock's Red Winter. All the pomologists present so decided, and it was then that Dr. Warder's notice was shown to us which still more surprised us.

The fact has escaped our attention till now, when finding a bushel of the apples in our cellar, with specimens before us, we are reminded of the error, and the importance of correcting it before its dissemination as the "Stark."

Already the Pennock, according to Dr. Warder, has three synonyms, and Mr. Downing gives it five. These are sufficient for an apple possessing only one good quality—that of keeping till July.

If the variety could be traced to its origin, there might be some hope of its proving new and distinct, for two fruits may resemble each other and yet be unlike. But the history of the Stark is unknown, and rests upon the fact that it has "long been cultivated in Ohio, and is valued as a market variety."

In order to see how near the Stark and Pennock resemble each other, from a description, we copy that of the former by Dr. Warder, from the *Prairie Farmer*, and of the Pennock, from his *American Pomology*:

STARK.

Fruit, globular, regular, large.
Surface, smooth, yellow, nearly covered with mixed red, splashed crimson.
Dots, numerous, medium dark.
Basin, regular, rather wide.
Eye, medium, closed.
Cavity, deep, regular.
Stem, medium to long.
Core, medium, closed.
Seeds, few, imperfect.
Flesh, yellow, breaking juicy.

PENNOCK.

Fruit, large, conic oblate, often unequal, lop-sided.
Surface, greenish yellow, covered with mixed and striped red.
Dots, large, irregular, browned.
Basin, wide, rather deep.
Eye, large, open.
Cavity, wide, deep, regular.
Stem, short.
Core, irregular, closed.
Seeds, numerous, regular, plump.
Flesh, yellow, breaking.

Dr. Warder "can not commend the Stark for the dessert," and he pronounces the Pennock good for "cooking and market only"—in which the doctor is correct.

We trust that we may have no more errors of this kind; our fruits are numerous enough and good enough for us, until we can be sure we are not adding to our collections those we rejected years ago. Besides this, it is time to demand more accuracy in bringing forward new varieties. It is disappointment enough to purchase a really new thing and have it prove worthless, without getting an old one which we know to be so.

Cultivation of the Raspberry.

BY THE EDITOR.

NEXT to the grape, there is probably none of the small fruits that require such good judgment in choice of varieties, soil, and method of cultivation as the raspberry. And yet there is no fruit which, if well cared for, gives such a genuine pleasure to the horticulturist, as a fine, luxuriant row of healthy raspberry plants, their deep green leaves glistening in the sun, or hiding in each other's shade, graced with the long, pendent stems of beautiful fruit of vari-colored hues. Both as a market and as a family fruit, there can hardly be any thing more choice or delicious. City visitors to the gardens of their country friends have been accustomed to the sight of strawberry-beds, and rows of blackberries, or apple and pear-trees here and there; but when they discover by the side of the fence a row of raspberries, the berries large, round, plump, with such beautiful colors of orange, or white or scarlet, and when the delicious taste justifies the expectations of their eyes, nothing can excel their admiration. Their praises we think are well bestowed. The raspberry *is*, without doubt, the choicest family and garden fruit now grown. The raspberry is easily grown if the right kind and the right soil are selected; but how difficult it is to make a right choice! The Hudson River Antwerp may be desirable to grow, by any one throughout the country; and yet out of the latitude of the Hudson River the instances of success are so few as to scarcely deserve notice. The Brinckle's orange, or Fastolff, or Franconia may seem desirable, and splendid berries they are if successful; but if the soil is sandy and burns them up, or if their canes are not protected during winter, the cultivator may look long for that delightful crop he expects, and never see it. The fact is, that raspberries can not be grown in any place under the sun without a good *rich, moist soil*. The purple cane and red raspberries particularly need a good rich soil; the black-caps may be grown on sandy loam and produce fair crops, but a richer soil will fully double the produce. Sandy, gravelly soils invariably need frequent and abundant manuring. Deepening the soil and frequent cultivation, too, are requisite; lastly, *mulching*. Perhaps no part of the culture of this fruit is so important and has so great an influence on the success of the crop as a careful mulching. This supplies moisture—moisture is a partial fertilizer; all combined give to the plant the right elements of growth, and cause it to attain a vigor and a luxuriance it might long look for in other ways. The experiment was tried last season at the Wallingford Community, Ct., as to the comparative benefits of mulching or not; and it was found that the produce from the *mulched* portion exceeded three fold that of the other not so treated. Mulching should be applied invariably during the fruiting season. It can afterward be removed, the ground carefully cultivated, and then replaced for fall or winter protection. The *distances* for planting are unimportant. For market uses we would prefer rows 4 to 5 feet apart and 3 feet in the row, carefully trained to stakes. With the black-caps, a trellis will be found advisable, as their long stems are often unmanageable and in the way. It pays to treat even black-caps well. We saw last season two different systems of culture—one in the field, the other in the garden. The first was not manured, the second was richly. The first hardly yielded 15 bushels per acre, the second yielded a bushel from only one trellis *ten feet* long. The growth and production were simply astonishing.

If the soil is rich and heavy enough to admit of a relief from the expensive process of mulching, then resort must be had to good cultivation, keeping the soil mellow and free from weeds. Keep the plant well pruned by cutting out all the old wood, and also all young and weak shoots that can be spared. The height of the red and purple cane raspberries should be $3\frac{1}{2}$ to 4 feet. As to time of planting, we have always preferred the fall; for the best of reasons, that the plants gain a growth the next season fully fifty per cent over those planted in the spring. Black-caps must invariably be planted in the fall, as they are earlier in their growth than any other variety. The profits of raspberry culture are yet undetermined, rarely or never exceeding \$500 per acre. Their culture is not so widely extended as to allow much opportunity for examination of this point, but the prices per quart obtained are certainly very remunerative. If a grower obtains \$250 to \$350 per acre for any of his raspberry crops, he can be contented.

Instances of \$1000 per acre from new kinds are quoted, but the people generally never attain such figures. A fair rule in fruit-culture is to treat your fruits as well as your children or yourself, and it will not be necessary to make estimates, for the profits will come easily and be well used. Lucky is that fruit-grower who treats his vines well.

The Salem Grape.

NEXT to the strawberry, there is probably no fruit so popular for family use as the grape. But every year, for the past five or ten, has witnessed the advent of so many new grapes, pushed with all the power of forcible advertising, with exaggerated claims of superiority, which on trial have produced so unsatisfactory results and given so much disappointment, that it is not strange every new grape is looked upon either with incredulity or else it is let alone at a respectful distance. The success of grape culture does not depend upon one single variety nor one location, but is a record of successes in different soils, different climates, and with different modes of cultivation. The variety that will fail in Massachusetts may succeed in New-York, and may be still better in the West; one grape may be eminently successful at the North, and fail entirely at the South.

Hence we say that enthusiastic reports of the success of a new grape, or, in fact, any fruit, at the place of origination, must not be accepted as a settled point in its favor.

Blessed is the man who produces a really good grape, but thrice blessed if it will by its nature grace the vineyard or the garden of every cultivator of the soil in all parts of the country. The Concord is the grape for all Americans, until a better can be found; and surely it is worth any amount of exertion to produce that *ultima Thule*.

Our attention has for some time been directed to the Salem Grape, and from several opportunities for observation we are disposed to speak in its favor.

Introduced two years ago, by a man whose name is associated with all that is meritorious in horticulture, it has gradually found its way into the hands of careful and conscientious fruit-growers and horticulturists, who have given it a practical test before indorsement, and now it comes forth well sustained in all that is claimed for it.

A patient man never wearies in well-doing. The Rogers Hybrids have been for a number of years favorably known to the public, and some of them (Nos. 4, 9, 15, 19) have made a valuable record; but with further home tests, the Salem at last appeared, and was declared eminently superior to them all.

Like Nos. 4, 15, and 44, the Salem is a hybrid between a native grape and the Black Hamburg; the bunch is large and compact, rather short, but very broad, the berry is as large as the Hamburg, of a light chestnut or Catawba color, thin-skinned, perfectly free from hard pulp, very sweet and sprightly, with a delicate aromatic flavor: for a wine or a table grape, excellent. It is as early and as hardy as the Delaware or Hartford, and as far as tried in the past six years has never failed to ripen its fruit, even in the most unfavorable seasons. Mr. Rogers at the time of its introduction stated that for earliness, hardiness, great vigor of vine, size and quality of fruit, he believed it had no equal among all the then new varieties known to the American public. Let us see whether these claims have been justified. We have personally tasted the grape, and the description of quality is not exaggerated; the vines in our possession show a remarkably vigorous growth, although not fruiting. In a score or more of other hands with longer experience than our own, and in different parts of the country, the testimony comes back from prominent fruit-growers as follows: "It is a hardy vine, a vigorous grower, with a strong leaf; the fruit ripens early, is very large and showy, an abundant bearer, fruit of an attractive appearance, good quality, and possesses eminent characteristics fitting it well as a valuable market variety."

We saw the grape first two years ago at the Exhibition of the Lake Shore Grape Growers' Association, and the uniformly favorable impression it then made upon all visitors, and also subsequently at the next Exhibition, in 1868, culminated in the award of the First Premium for the *best six clusters of fruit, quality to rule*. We are aware of the



The Salem Grape.

injudiciousness of indorsing any new grape for general cultivation throughout the country, but as long as the people are led to believe that the Concord is the *only* grape that will succeed anywhere *without fail*, and still is far from perfect, so long will we welcome every new variety which will give us the same admirable characteristics of growth and productiveness but with a better flavor. We consider the Salem a good approximation to the desired result, and one of the most valuable new grapes now before the public.

Home Scenes.

BY B. S. OLMSTEAD, RYE, N. Y.

THE plan presented in this paper may not at first appear quite appropriate to illustrate one of a series entitled "Home Scenes." Yet is it not? Do not most of us regard our parish church as a spot very near and dear to us? Is it not an integral part of our homes, one that we would be loath, very loath, to part with? Do not some of the most heart-felt of home associations cluster around it? The baptism, the wedding, the funeral, do not they make it a sacred place, consecrating it to us by events which bind the members of our families more closely than ever to each other? And to the Christian man is it not a type of that future home up toward which his hope and faith are ever drawing him—the place of communion with his Father and Saviour, that Elder Brother—and of pleasant intercourse with his brethren, his fellow-Christians? Shall we not, then, gather around such a spot some of the adornments which we lavish upon our dwellings? Shall we not strive to make of its surroundings a pleasant spot in the memory of the passer-by, an allurements to our children to draw them within its sacred inclosure, a place where nothing discordant shall jar upon its quiet attractiveness, and where all shall be in harmony with the peaceful spirit with which we should draw near to its services? The church referred to in the accompanying place has an interesting history. Founded under the auspices of the venerable Society for the Propagation of the Gospel in Foreign Parts, in England, nearly two hundred years ago, it has seen many eventful changes. Twice it has been destroyed by fire; and now, upon the same old site, a new edifice, larger and more beautiful than any before, has just been erected.

The ground on which it stands is very rough and unshapely, scarcely any thing more than a mass of rock, and of such a contour that access to the church is by no means easy or pleasant. The object of this plan is to correct these imperfections, and to make the whole convenient in its arrangements and attractive in its appearance. Situated as this church is, in the midst of a rural parish, gathering its worshippers from an area of some three or four miles radius, it is necessary to make ample provision for the approach of carriages. At the same time, the convenience and safety of pedestrians and Sunday-school children must not be lost sight of. To fulfill these requirements, a flagging is designed to extend around the sides of the church from the choir entrance at K, passing by the entrance door opposite the Sunday-school at I, the main entrance at H, the town entrance at G, and so on to the entrance to the vestry at E. This last entrance communicates with the body of the church also, and will probably be used by that part of the congregation whose seats are near it. The spaces inside of this flagging and between the buttresses are to be kept in grass. On the south side, a low bank wall is to extend from the south-west corner of the grounds to the main entrance gate at B, thence passing the town and along the south of the church to the south-east corner. This wall, directly in front of the church, will be finished as a terrace-wall, and will serve to connect the edifice properly with the ground. On the north side, another terrace-wall will be constructed from the Sunday-school room to the choir door, and will serve as a connecting link between the two buildings and the ground, and will likewise apparently elevate the church, an effect to be desired on this side. A bank wall will be constructed on the east of the lot, with an entrance gate at Y, leading to the sheds. Bank walls already inclose the lot on its other sides. Outside of the wall a sidewalk, ten feet in width, is proposed. Along this sidewalk, on the south of the church, and along the flagging on the west end, will be room for some ten carriages to stand in line, and the walls are of sufficient width



GROUNDS OF GRACE CHURCH, RYE, WESTCHESTER CO., N. Y.

to allow them to turn out of line and pass on to their destination, as soon as they have deposited or received their passengers. By means of the flagging and the sidewalk, the occupants of these carriages will be able to reach them without waiting for others in advance to receive their loads at the entrance doors. A small entrance gate at the west end of the lot opens to a foot-walk leading up to the church, and another on the east to walks leading up to the church, the choir, and the Sunday-school room.

The children of the Sunday-school will pass out from their school-room to the church door at I, and the arrangements are such that all danger from horses and carriages is avoided.

The planting has been designed with the hope of creating sufficient variety, and giving to the whole an air of seclusion, quiet, rest. The principle of unity prevails in the harmonious blending of the various parts. In the convenience of arrangement the principle of utility may be discovered, whilst the law of association has been brought into action, and has given to the grounds the holly, the ivy, the yew, and, it is hoped, not in vain, the cedar of Lebanon. A list of the planting would be added, but our lengthening paper forbids.

Marshal Neil Rose.

THIS beautiful climbing rose, introduced about four years since, is now foremost among the few that have sustained the reputation given them when first brought before the public. We have had plants of it over three years, and can vouch for its excellence. The rose is of a deep canary yellow, of very large size, and of exquisite fragrance. It has received the highest commendation and first-class certificates at all the English flower-shows, and must be regarded as a great acquisition. When grown in the open border, it should be protected by throwing the branches upon the ground before hard frosts occur, and placing over them as well as the roots a covering of thick sods. In the spring, train up and prune as desired. As a rose for the rafter of a green-house or conservatory, it is unsurpassed for its magnificent blooms. At the South, it will need no protection whatever.

Experimental Gardens.

PROFESSIONAL horticulturists are proverbial for having a desire to furnish new things, or "novelties," as termed by the books, then add to this their love of gain, in common with the rest of the world, and is it any wonder that we "the people" sometimes get "sold" in our ambition to show off the first new things of the season? In view of this, and the damaging effects it is having upon horticultural enterprises throughout the West, and especially so in Wisconsin, the Wisconsin State Horticultural Society, composed of earnest, enthusiastic nurserymen and fruit-growers, petitioned the Regents of the State University, in February, 1868, for the use of some portion of their farm for their Society to carry on such experiments as they might be able to, under the supervision of the officers of the Society. The grounds were readily granted, and the result is, that during the first season there were donated to the society about *three thousand* trees and plants, including a large collection of grapes, all of which are doing remarkably well. Nurserymen of the State are contemplating donating twice the amount for next spring's planting, and, with the thousand dollars the State appropriates for the benefit of the Society, it is expected that valuable results may grow out of the enterprise. But you ask, How is it to be gained? *The objects* of the experimental garden are to thoroughly test every thing, either fruit-tree, vine, or shrubs, that may come under their observation, upon these grounds; further to collect valuable specimens of the wild fruits, and to try by cultivation and pruning what can be made out of them by way of improvement. They also solicit, and, where this will not gain the object sought, will in time, as their means may increase, purchase newer novelty plants. In this way our Society hope to thoroughly test the hardiness and quality of fruits. This can readily be done in the class of small



Marshal Neil Rose.

fruits, and the result be seen and felt within a few years. Larger fruits will require more time. New seedling strawberries, raspberries, currants, and grapes are especially solicited; for of these very much is expected, and special attention is being devoted to their cultivation in the West, as from these it is we have reason to hope and expect much. A registry is kept of donor, what donated, when received, condition, and every thing connected with the history of same which seems to be of interest. This history will be continued, noting from year to year the success which attends the same. And the society expects to gain a celebrity in this way that will place it as authority to the people of Wisconsin upon the fruits to plant in the State. Will the East come to our assistance, and contribute of their mite such things as they have to spare and may hope to sell in our State? The West pays the East hundreds of thousands of dollars annually for fruit-trees. Is it any more than reasonable to ask that they donate to our grounds of the abundance of their samples, at least of what they offer to our neighbors for their gardens? We of the West say not. We wait their answer, assuring them every thing is to be "done decently and in order," receiving the best of care and attention, with the hope that good may come of it; and as Wisconsin is the pioneer in a State experimental garden, may our example be such that other States, even local societies, may see our good works and do likewise. We aspire to the time when the experiments here made will be the ruling guide for fruit-growers in the State, and no tree can be sold which is not on the Society's list as having been thoroughly tested and its merits known. Thus do we desire to compare the relative value of Eastern and Western trees. Again we would inquire, will the East show us their hand?

MADISON, WIS.

O. S. WILLEY.

Manure for Fruit-Trees.

BY THE EDITOR.

WHETHER fruit-growers know it or not, it is still a practical truth that fruit-trees differ in the quality and quantity of fertilizing material necessary for their nourishment. Almost every one accustomed to observe the most common things of country life has observed that in many neighborhoods orchards are found bearing large crops of fine fruit, while others only a half mile off, and apparently on as good soil, and as well treated, produce only small crops; or again, in one part of the country the fruit in one orchard will be large and fair, while in another it is always spotted and defective. Some orchards cease bearing while yet far from a worn-out or dying condition, and the application of barnyard manure, while helping materially, is still not perfect in its results. We have seen apple-trees thus treated, yet without producing any good effects. The trees, to be sure, grew more luxuriantly, but the fruit was still knotty and inferior. To enable us to solve this curious question, let us examine the *ashes* of the trees themselves, by the aid of chemistry, and learn of what they are made. We herewith annex a valuable table, showing the analyses of different trees:

ASH OF THE PEAR.

	Sap Wood.	Bark.
Potash,	22.25	6.20
Soda,	1.84	—
Chlorine,	0.31	1.70
Sulphuric Acid,	0.50	1.80
Phosphate of Lime,	27.22	6.50
Phosphate of Peroxide of Iron,	0.31	—
Carbonic Acid,	27.69	37.29
Lime,	12.64	30.36
Magnesia,	3.	9.40
Silex,	0.30	0.40
Coal,	0.17	0.65
Organic matter,	4.02	4.20
	100.25	98.30

ASH OF THE APPLE.

	Sap Wood.	Bark.
Potash,	16.19	4.930
Soda,	3.11	3.285
Chloride of Sodium,	0.42	0.540
Sulphate of Lime,	0.05	0.637
Phosphate of Peroxide of Iron,	0.80	0.375
Phosphate of Lime,	17.50	2.425
Phosphate of Magnesia,	0.20	
Carbonic Acid,	29.10	44.830
Lime,	18.63	51.578
Magnesia,	8.40	0.150
Silica,	0.85	0.200
Soluble Silica,	0.80	0.400
Organic matter,	4.60	2.100
	100.65	109.450

COMMON WILD GRAPE-VINE.

	Wood.	Bark.
Potash,	20.84	1.77
Soda,	2.06	0.27
Chlorine,	0.02	0.40
Sulphuric Acid,	0.23	trace.
Phosphate of Lime,	15.40	5.04
Phosphate of Peroxide of Iron,	1.20	5.04
Carbonic Acid,	34.83	32.22
Lime,	17.33	39.32
Magnesia,	4.40	0.80
Silex,	2.80	14.00
Soluble Silica,	0.00	0.30
Coal and organic matter,	2.20	1.70
	100.21	100.86

The above analyses are of the wood and bark only, but Professor Johnson has given us the analyses of the *fruits and seeds* also:

	Potash.	Soda.	Magnesia.	Lime.	Phosphoric Acid.	Sulphuric Acid.	Silica.	Chlorine.
Grape Seeds,	28.6	....	8.6	33.9	24.0	2.5	1.1	0.3
Apple, entire fruit,	35.7	26.1	8.8	4.1	13.6	6.1	4.3	....
Pear, " "	54.7	8.5	5.2	8.0	15.3	5.7	1.5	....
Cherry, " "	51.9	2.2	5.5	7.5	16.0	5.1	9.0	1.1
Plum, " "	59.2	0.5	5.5	10.0	15.1	3.8	2.4	....

In these analyses any skeptic can see that different trees require different proportions of the same fertilizing materials, and the fact is apparent that special fertilizers can be used with success. From opportunities for good observation, we consider ammoniacal fertilizers invariably injurious—they should never be used. All fertilizers containing lime, potash, and phosphoric acid can be used very appropriately. The apple-tree needs more *lime* than any other fruit; the pear more *potash* and *phosphate of lime*; while the grape-vine needs all elements in a strong degree, and more carbonic acid or nitrogenous matter. What we have hitherto said as to *natural manures* for fruit-trees, we can now repeat with emphasis as being the most effective and best adapted to the

health of the tree. Common *wood-ashes* is invariably the cheapest material to be obtained; while lime and bones are to be obtained in almost every part of the country. Apply potash and bone-dust to the pear, lime to the apple, and all to the grape-vine. Nearly all of us know the Pelham fruit farm on the Hudson River, where annually several *thousand barrels* of fine Newtown pippins are produced, of a size, flavor, and beauty so superior to all others that it has received the title of the *best orchard in the world*; and yet the great secret of the culture of that orchard is in the *abundant use of lime*. Probably no place in America grows finer pears than we have seen raised in the neighborhood of Newark, and more particularly in the State of Delaware; and yet wherever most successful, we have found that the owners of the orchards were in the habit of using bone-dust and superphosphates. We believe that if the *grape-vine* even were supplied with all the elements it needs of bones and potash that we would have more uniform crops of nice fruit, and less mildew or other diseases. Dr. Nichols, of the Boston *Journal of Chemistry*, had the pleasure of trying an experiment of this nature on his grapes, and pronounces it an emphatic success. An intelligent cultivator of grapes, living on the borders of Lake Erie, had been more than usually successful for several seasons in growing several varieties of *foreign grapes* in the open air. At length they began to fail, even the young vines, and the mildew made its appearance to render the crop entirely worthless. At last, receiving the accidental hint, he gave one of his grape borders a *heavy dressing of wood-ashes*; these of course contained both the potash and the lime so necessary to the grape. He had the satisfaction the next season of raising a crop of fair and excellent grapes, while the other vines of the same age not thus manured bore only mildewed and worthless fruit. Now, what these cultivators have done others can do—pick up all the bones, ashes, or lime that can be readily used, and wherever a vine or a tree fails to yield fruit, apply liberally in right proportions, and you will find that these hints from this journal will be worth many hundreds of dollars to you.

Evergreen Hedges.

BY WALTER ELDER.

EVERGREEN hedges should form inclosures to all the various departments of ornamental gardening where they will thrive. To put up *dead sticks* or *cold iron* as fences to pleasure grounds and gardens, without linings of evergreens, is at war with good taste. It looks like setting up the dead to watch over the living. Notwithstanding the many wise suggestions written and spoken of the beauty that evergreen hedges impart to ornamental gardening, and the best modes of culture thereof, they are not yet so general as they ought to be. They should be universally used as inclosures. We have numerous species and varieties of evergreens that are well adapted for making good hedges—the many arbor vitæ, biotas, junipers, hemlock, yews, boxwoods, Norway fir, etc., some of which will thrive upon almost every kind of soil that is dry, or not in marshes. Where such spots occur, they may be set with osiers, to continue an unbroken live hedge. For *parks*, the Norway fir is one of the best to make a strong and thick outside hedge, and for divisions and suburban gardens arbor vitæ, hemlock, biota, juniper, tree box, yew, etc., are well adapted and give a pleasing effect. For parterres and small divisions, the dwarf boxwoods, dwarf arbor vitæ, and many other dwarfs are suitable. Every department of ornamental gardening is a *picture*; and the fences or inclosures are the *frameworks*, which either add beauty to the picture or destroy its beauty. Evergreen hedges add richness and beauty to the grounds and all the various kinds of plants thereon, as ornamental frames of precious woods finely polished, and others richly gilded, give greater graces to the picture. The cost of evergreen hedges, including the price of plants and setting them out, is about twenty-five cents per foot for tree boxwood, yew, Siberian arbor vitæ, etc., twenty inches high; and for American arbor vitæ, hemlock, Norway fir, Chinese biota, etc., twenty inches high, is about fifty cents per yard; the after-care, the three first years, in cutting up weeds about them, is about the same cost as a row of Indian corn of the same length.

Besides the beauties of evergreen hedges, their shelter is of great value in breaking off the low currents of cold air in winter which prove so destructive to the stems of many species of plants, which by their girth and density can not yield to sudden contractions by cold and burst open ; or in other words, the compression of air in their cells becomes so great by sudden and severe cold as to cause explosion, just as the compression of air by fire and gunpowder rends rocks asunder. The branches being higher are not so injured by low cold currents, and being smaller and less dense, they give way to compression more readily and remain uninjured when the stems are rent. On the contrary, they are more exposed and suffer more severely from spontaneous evaporation, and are often killed by that when the stems remain sound. So as evergreen hedges save the *stems*, belts of trees protect the *branches* by checking the force of spontaneous evaporation.

It is a moderate estimation to say that evergreen hedges and belts of trees are worth ten times their cost in these respects. All horticultural improvers, for these reasons, should make fences of evergreen hedges universal, and the *dead sticks* and *cold iron* will be useful upon the railroads, etc.

From the first of April to first of June, north of Virginia, is the best time to plant out evergreen hedges, and from middle of September to first of November in the autumn is a favorable time.

Railway Gardens.

BY THE EDITOR.

TRAVELERS take pains to tell us of the neatness of the surroundings of railway stations in England and on the Continent, and the care exercised in keeping all the roadside banks of grass smoothly laid out, and regularly cut. In some large provincial towns the travelers are even treated to views of handsome railway flower-gardens or neat parks of lawn and shrubbery.

If in such countries, where land is so valuable and dearly bought, such pleasing improvements can be carried out, why can not America, with an unlimited area of cheap land, reproduce the same idea in American railway arrangements, with far more agreeable results? We have our elegant parlor-cars and day and night coaches ; but why not treat the passengers to views of little gems of ornamental gardening here and there, where it can be done with a very slight outlay. In our country districts there is scarcely any reason why the railroad depot buildings and surroundings could not be made of a most cheerful and ornamental character ; but we see actually little or no attention paid to them, and only rare cases of choice taste.

We consider the subject worthy of discussion. It is not merely necessary to have a depot well and comfortably arranged within, or of an ornamental design and pleasing color without, but the yards, freight-house, and wood-sheds should be appropriate also, and kept in good order.

The majority of the railroad stations throughout our country are of a most disagreeable character ; not only poor, shabby, comfortless, but ill-kept and with most careless or dirty surroundings.

There are some special instances, as on the half-dozen first-class lines of travel, where the prominent places are distinguished by imposing structures, and hundreds of thousands of dollars wasted on magnificent depots.

But we think railroad companies can go beyond mere building, and take in a little gardening. Not necessarily on a large scale ; but in the neighborhood of their smaller stations money, taste, and time can be agreeably combined and spent to produce an increase of convenience in the provision of material beauty.

How easy it would be, in many places, to have a little bit of grassy lawn at each end of the depot or directly opposite, and surrounded by a neat fence ! How easy, too, to plant on the street, near at hand, some fine shade-trees, whose luxuriant growth will, in course of time, make the neighborhood a spot of great beauty ; and how easy to introduce into these grassy squares or triangles a few ornamental shrubs or evergreens, whose constant growth requires little or no attention !

Not long since, while passing over the Lake Shore Railway from Erie to Cleveland, Ohio, we observed that this idea had been carried out, and we were much pleased with the uniformly agreeable appearance of all the stations. Built after one invariable pattern, well arranged, and with very appropriate surroundings, the traveler could not fail to be favorably impressed with their cheerful looks and remember them for many years to come. The arrangements were as follows: The depots are all square, of wood, surrounded with a wide plank well elevated, three feet from the ground; from each corner of the depot these walks branch off, parallel with the railroad, to buildings at distances of one hundred or two hundred feet—on one side to the wood-house, on the other to the freight-house. The space left open between these buildings, and surrounded by these walks, is usually sown to grass, and forms a very nice lawn, while at regular distances apart, near the walk, are planted tall evergreens, and in a row up and down the centre are set out some of the finest shade-trees. On the opposite side of the track no buildings are allowed. There is usually a large square, a field sown with grass, bordered with a neat fence and planted with shade-trees.

The good effects of such an arrangement are obvious. The elevated walks, both at the depot, the wood-house, and freight-house, make the loading or unloading of freight very easy, while it is also easier to alight from a wagon or to reënter. These squares are often continued beyond the outbuildings by the side of the railroad track, surrounded by a fence, and the street also well planted with shade-trees, for distances of even one thousand feet.

These little grassy evergreen squares, by their fresh beauty and ornament, are a perfect delight to the traveler, as the train stops, to look out and see. Their influence is that of an educator of public taste, while none can fully estimate the inducements it offers to the native townspeople to beautify their own homes.

Such little ornamental gardening costs but a trifle, and goes far toward making a road popular, and is money well invested.

We hope to see public attention directed to this subject with more and more definiteness and appreciation.

Rural Taste.

IT is a common mode of thought to assert that the farm and the home should be the spot in which a taste for rural ornament can be most appropriately and successfully developed. This is true but as a sequence from other beginnings; and we are disposed to attribute the education of one's taste as much to the associations of the school-room and grounds as to home associations. If in our country districts the old, shaggy, red or brown weather-beaten structures for school-houses were replaced with buildings of an ornamental style of architecture, with grounds appropriately laid out and planted in something simple, perhaps nothing beyond a pretty lawn plat, surrounded by a neat fence, and planted in evergreens, we feel sure that the constant sight of this pleasant object, and the associations naturally formed in the mind of the scholar, would do far more good than centuries of lectures or libraries of books. The taste of a child comes from the school-room as well as the home, and goes from the one to the other. Hence we make a plea not only for the improvement of our country school-houses, but for the importance of extending this subject even beyond, to COLLEGE GROUNDS. In the minds of college managers it seems only necessary to secure the ground, "*the terra firma*," and then build their massive walls; and when that is done, all is done. Not so, indeed. Thousands of young men and women frequent these grounds day after day and year after year. If the grounds are well laid out and tastefully displayed, there is an opportunity presented for the development and culture of a refining taste, such as no musty literature ever possessed. It is practical, too, and will insensibly help to mould the future disposition and character, and act on it for years to come. Let us then remember that if we would have rural art and taste become widespread, we must begin with the youth of the country, and at the fountain-heads of education.



Hints for the Month.

THE GARDEN.

HOT-BEDS are to be closely watched, to see that the tender plants do not suffer from too great concentration of the more vertical rays of the sun. Give plenty of air, to harden off the plants, and transfer to cold frames and the open air as fast as it is safe to remove the plants, so that at the end of the month the bed may be broken up and the manure used for other crops. A little negligence in giving air or shading, now, neutralizes all previous care and attention.

Prepare hills in warm locations, by excavating large deep holes, and put in two shovelfuls of fine old manure; mix and cover it with fine soil, and into these transfer your cucumber, squash, and melons started in the hot-bed on sods the last of the month. Set three plants in each hill, cover them with hand-glasses, or make a square box without top or bottom, and set these boxes around the plants, and cover with a light of window glass, and shade till the plants get established, when the glass can be lifted or removed days, to be replaced nights. These boxes are excellent, covered with thin muslin, in protecting from the striped bug, etc.

Plant peas, according to requirements, once a week during the month for succession crops. Early in the month plant Champion of England, Marrow-fats, and other late sorts, giving them a good generous soil to grow in; fertilize with well-rotted compost, or guano, using care to mix it well with the soil before sowing the seed. Put brush to them as soon as a growth of two inches is attained, as if left to fall over they seldom recover, and the earlier the brush are put up the more naturally the vines incline to them.

Set them firm in the ground, and weave the tops together neatly, forming a thin, even row, which will resist the effects of wind or storms when the vines have attained their growth, and cover them.

Sow seeds of all crops desirable as succession, such as radish, lettuce, etc. A quick, warm soil grows the best radishes, as unless they grow quick they are tough and woody. So lettuce needs to grow quick, and head up well, to be crisp and tender.

If the asparagus-bed has had proper care we may now have a supply. It is fit to cut when grown three inches; when larger, it is apt to be tough and stringy. Care is needed in cutting not to injure the buds, and to be sure and cut an inch or two below the surface. It is better to cut the shoots with a sickle-edged knife, for then the stumps of the shoots bleed less than if cut with a common knife with a smooth cut; although a common knife will answer if the shoot is cut with a slanting cut, and below the surface. From the hot-bed, cold-frames, and in sheltered warm beds we may now have a fair supply of lettuce, radishes, cress, and other salads, if care has been given to forwarding, etc.

Make beds in rich soil, in warm locations, and sow seeds of salads, mustard, spinach, etc., once a week to insure frequent, tender growth.

Now is a proper time to make the beds and plant artichokes; of these we have the true artichoke, produced from seed, which grows an edible head, thistle-like; and the Jerusalem artichoke, which produces, and is grown from a tuber similar to the potato; the first is one of the refinements of horticulture, recommended only to the curious in such matters. The Jerusalem artichoke is grown for its tubers, which are used raw, pickled, or sliced and eaten with vinegar, similar to any salad. The culture is simi-

lar to that of the potato, but much more productive. It is always free from disease, and will grow in any soil, or almost any situation, and will endure our northern winters, on dry soils; and when once planted and in the soil is apt to prove troublesome in exterminating, when desirable, as small tubers will be apt to be overlooked, and they will even send up their woody stem and coarse harsh foliage from sprouts broken from the tubers. A field stocked with this vegetable would afford excellent feeding-ground for swine, as they are quite nutritious, and the swine would work busily in digging them.

Prepare beds in rich deep soil, and plant out horseradish sets. Take the small roots, one fourth to one half an inch in diameter, and cut them in six-inch sets; make a hole with a dibble ten inches deep and eighteen inches apart, and drop one set in each hole, small end down, or it will form ill-shaped roots, and cover them, pressing the soil close around the whole length; planted thus, and fair culture given during summer, we may have good-sized roots for digging late in fall or early the following spring. It was formerly, and to a large extent is still, popularly supposed that in order to grow horseradish we must plant the crowns; but such is not necessary, as sets, as above, produce much smoother roots, and grow nearly as readily when well planted.

Sow in suitably prepared beds parsley seed; as this is to remain several years in the same spot, it should be planted in some place from whence it need not be moved, or interfere with other crops.

Sow turnip seed for early table use, using wood-ashes freely. If worms attack the root, it will be better to dig up the ground and plant to other crops, as it is useless to attempt to grow turnips when worms make their appearance among them. The English white is the best variety. Early turnips are partial to an early, sandy or gravelly soil, made rich with decayed compost manure, ashes, and superphosphate. Sow in drills fourteen inches apart.

New plantings of rhubarb may be made early in the month; make the soil deep and rich; a rather moist than dry soil is preferable. Plant the roots four feet apart. A medium-sized variety is the best for family use. A variety which cooks tender and melts the most when stewing is preferable to the very large and coarse growing varieties. It is better to have an early and a later variety. The catalogues will indicate varieties. Established varieties will furnish leaf stems ready for use during the month; pluck off the stems by a sidewise jerk, without injury to the plant left; do not pull too close to weaken the root unnecessarily. Keep the seed-stems cut out, not allowing any to run up.

As soon as settled weather comes, and the ground will work mellow, plant dwarf beans, for early, and once a week for succession; these being more hardy than the pole or run-

ning varieties, and easier protected from frosts, should be planted first, and early. After fear of late frosts set poles firmly in the ground, six feet high, four feet apart, and plant the beans around them six to a hill. In planting Limas, leave them till the last, as they are the most tender and difficult to start, and stick them, eyes down, three or four inches away from the pole—many fail from planting so close that the water dripping from the poles rots the seed—and cover them with half an inch of fine soil; if the soil crusts, look to it and break it as the bean begins to germinate. Transplant those started on sods, in the hot-bed, the last of the month.

Where not already done, transplant early cabbage into well-prepared rich soil, as soon as the ground can be made ready for them. Unless the soil is impregnated with lime, it will be advisable to apply it in moderate quantities. The tendency to produce club-foot is remedied by a fair proportion of shell-lime in the soil, as we find by experience and the record of others. Seed may be sown in the open ground for medium and late crops.

Make beds in the open garden, enriched highly with hen manure or guano, and sow seeds of capsicum, peppers, cayenne; there is yet time for the ripening, from seed, the squash, bell, and sweet mountain varieties, if planted early in warm, rich soil. Transplant those started in the hotbed, pots, etc., the latter part of the month, when late frosts are past. The pepper is a tropical plant, consequently must be treated as a tender plant in a northern climate.

Well-grown cauliflower is a refined cabbage, and can only be grown in rich, well-prepared soil, and then only when *good* seed is used and *good* culture given. The gardener who produces perfect cauliflowers may well be proud of his achievement; the excellency of a good dish of this vegetable is well worth the risk of several failures. The culture is the same as that of the cabbage. It must be grown *early* in the season before dry weather.

Repeat plantings of sweet corn in the open air once in two weeks, after the soil will work dry. Transplant that started in the hot-bed, soon as safe from frosts. Mexican, Crosby's New Early, and Trimble's are good newer varieties and excellent. We have tested Mexican and Trimble's, and can ask for no better, either for eating or productiveness. There are two varieties of the Mexican—one a white cob, and the other red; the white is the sweetest and best.

Sow seed of celery in rich mellow soil, thoroughly pulverized and well filled with *fine* stable manure, as soon as the ground will work dry.

Sow seeds of the Kohlrabi—another variety of the cabbage tribe—in the open ground for the main crop. Care for, and cultivate in every way same as the cabbage.

Sow seeds of the Okra plant in drills, two feet apart for the dwarf sorts, and double that dis-

tance for the tall kinds. This is a tender plant, and the seeds should not be sown till the soil is warmed up somewhat. It is a free-growing plant of the easiest culture, and an abundant bearer in ordinary garden soil. This plant is grown for its long pods, which, used when young, are tender and nutritious, in soups, stews, etc., for which purpose they are used.

When the ground is dry and warm, and late frosts are past, plant seeds of all kinds of melons, squash, etc., giving a good shovelful of well-fermented compost to each hill, after broadcasting and plowing under a good dressing. Put the seed over the manure, in the hill, first covering an inch of soil over the manure; put in seed enough to guard against the contingencies of failure to germinate, worms, bugs, etc., and plant at distances according to growth of vines, 4 to 9 feet.

Toward the close of the month transplant into the garden tomato plants, set them four to five feet apart, mixing a shovel full of fine old compost to the hill in the soil. Shade till established, and then keep the soil fresh stirred, applying a sprinkling of guano around each plant.

A very good pickle is made from the pods or fruit of the *martyria*, which it produces in great abundance. Seed are sown in the open ground early in the month, and when good strong plants are grown they are transplanted to hills two feet apart each way.

A good sharp, light, and bright hoe in good hands in the garden is one of the best antidotes for weeds, which so often prove the bane of good crops, if used by one who goes with his eyes open.

The great secret of success in the garden, after a good location, is in plenty of good manure judiciously applied, constant working, and good seed, though last named, is not the least, but should stand first.

In all garden operations we should have an eye to the future, and few things conduce greater to success than a good compost heap, which the thoughtful gardener will not fail to commence early, and add to it every thing capable of being converted into plant food.

FRUIT GARDEN.—If, from any reason, planting here should have been delayed, no time should be lost in planting out all sorts, as in many localities plants will have commenced their growth.

Plant out strawberry plants as directed for last month. Early planted generally make the best beds. Mulch old beds with cut straw, having first cleaned them of weeds, grass, etc., and raked in a good dressing of wood-ashes. In planting new beds it will be found that the more delicate varieties of fruit are not always the best for general culture, however desirable they may be for the table. Sow a sprinkling of guano over old established plants.

Set out raspberry beds, first having cut back

the canes to four or five eyes. Select plants with an abundance of fibrous roots; set the roots four or five inches deep in the soil, planting at the same time stakes, if to be used, so as not to injure the roots in driving. The best variety depends upon the location, soil, and care accorded them; what proves the best in one locality, and under the care of one, may prove the poorest in another soil and cared for by another.

Put up and tie to the trellises grape-vines, using care not to injure or break off the buds; use soft twine or bass matting for tying. Cuttings, if not already planted, should be done at once, but layering is a superior mode of propagating. Preparation for layering can be made as soon as the buds begin to start. Take a strong cane, which has been previously cut back to about five feet, open a trench six inches deep and the same width, lay the cane in the bottom, pegging it in place. When the shoots have started three or four inches, select the strongest, put stakes to them and cut the cane about half off with a slanting cut, fastening it open midway between the shoots, and fill in about two inches of soil, covering the cane; in about a week fill in as much more soil, and in a week or two after fill up level.

Transplant currant bushes before they start into leaf. It is said—with how much truth we do not know—that covering the ground around and under the bushes with an inch or two of coal-ashes will tend to prevent the ravages of the “currant worm.” A trial would lead to no harm, but result in good even if it did not prevent their attack.

Finish up planting of dwarf fruit-trees soon as possible, giving them ample room to extend their roots. Head back and prune to keep them dwarf, compact, and evenly balanced.

Great vigilance is necessary to keep insects in subjection; on many kinds of fruit-trees, vines, etc., they commence an early depredation, or provide for an increased number by depositing their eggs, so that they should be looked for daily, and every means used for their destruction.

The fruit garden should be kept clean of weeds. The hoe properly used is a good encourager to the development of both fruit and vine, while it keeps out of sight all unsightly weeds.

ORCHARD AND NURSERY.—The pruning over, there remains to hunt out the caterpillars, destroy the nest-worms, fight the canker-worms, and do up the grafting, etc. The present month is as good a time for grafting pip fruit as any during the year, as the sap is in full flow. The art of grafting is not a difficult one, and there is no particular reason why any farmer may not qualify himself, and do his own. The main secret is to place the scion in the stock so that the bark of each will come in contact, and cover the cleft with wax, so as to exclude the air and

wet. Use only such scions as are fresh and plump, with full fresh buds.

The little clusters of insect eggs glued to the branches and twigs overlooked, deposited last year, will be hatching out now that warm weather has come, and the worms will be forming their nests, scarcely perceptible at first, and defoliating the trees. Close attention will be needed to wipe them out while it may be done with the least trouble. Moths of various kinds will begin to fly evenings, and be providing for continuing their species by depositing their eggs where, when the young come out, they may gain their sustenance without traveling far. Great numbers of these moths may be destroyed by placing bottles of sweetened water about the orchard, or fixing burning lamps in pans of soap suds about the trees where they frequent evenings; but there is danger of destroying insect friends as well as foes, for both will seek the light and destruction.

If the stocks of budded trees have not already been cut back, if the buds are plump and sound, cut back to three inches of the bud, the portion left furnishes a fine support to tie the new shoot to, if necessary, when it starts into growth.

All newly set trees will be benefited by a mulching of some kind to protect their roots during a dry time, which frequently happens in the spring or early summer; saw-dust, spent tan, chip dirt, or litter of any sort, is good; but best of all a frequent stirring of the soil; this gives the most effectual mulch and prevents all drying out, while it is a great encourager to growth.

The careful orchardist will seldom find use for the saw and hatchet in pruning, for he will be on the look out, and when a shoot starts where it will be likely, if allowed to grow, to mar the proportions of the tree, or interfere with other branches, the pocket knife is sufficient to remove all such.

Apply ashes to peach-trees, and dig out the borer with a sharp-pointed knife. If affected with the yellows, dig them up and burn root and branch, or, if disposed to experiment, remove the soil about the trunk to expose the roots, and apply on the exposed roots half a peck to a peck of hot ashes, right from the hearth; no matter if there be some live coals of fire mixed with them, return the soil, and note the result.

Finish up planting and cleaning up in the nursery, and set the cultivator going to keep down the weeds, and encourage the growth of the young trees.

LAWN AND FLOWER GARDEN.—The better time to transplant evergreens is when they begin to make a growth, but it should be done with the least possible exposure of the roots; for, unlike deciduous trees, they seldom recover from exposure. Too much pains can not be taken in preserving the roots entire, keeping them moist, and in resetting.

Deciduous trees and shrubs should have been set last month, but some kinds may yet be transplanted, if due care is used.

The lawn will need mowing as soon as the grass has made two or three inches growth, or sooner. Keeping the grass cut close tends to keep it thick and soft, giving it the look of a soft, green mat.

In selecting plants and seeds for the lawn and flower garden, regard should be had to the purpose to be served. As much depends upon the selection and arrangement as upon the plants themselves, and frequently more. We want plants adapted to particular purposes, plants that will give us a constant brilliant show, plants to mass, plants for hedges, plants for their fragrance, for their foliage, plants for climbing to cover unsightly objects—buildings, covering fences, etc.—plants for early and late flowering; and when we get them, if they are not arranged so as to best serve the purpose desired, we are disappointed. If trailing plants, adapted for hanging baskets or pots, are put in the ground where show is desired, disappointment results.

Many are abandoning the culture of annuals from the trouble involved, and are substituting bedding plants, etc.; but there is yet great beauty and show that we can not get from other plants that may be had from the annuals, so we would advise a fair proportion of annuals, and, for most varieties, May is quite soon enough for sowing the seed; and here comes a very delicate task.

In order to be successful in having seed germinate and grow, we must understand the nature of the seed planted, its requirements, and follow to a certain extent natural laws in planting. If the seed is from a hardy plant, little trouble is usually experienced; if a half-hardy or tender plant, much more pains, and much good judgment is required in planting, and at the right time. Half-hardy or tender plants must not have their seed planted in cold or wet soil; tender plants should be started in the hot-bed or green-house; half-hardy should not be planted in the open air till the soil becomes warm, so that the seed may germinate and grow, and not rot, as it would in cold soil.

A failure frequently, perhaps the most so, results from planting flower seeds too deep or too early, before the soil comes into proper condition; it is either too wet and cold, or too dry. Nature requires warmth and a suitable degree of moisture, as well as air, in order that seed may germinate. If a seed is buried too deep, it will not germinate; if put in a wet cold soil, it rots; a dry one, it fails, or if it germinates at all, it perishes before the young plantlet can get hold on the soil or ascend into the sun and air. All seeds have stored up food to support the young plants to a certain extent; if this be expended before the plumule can reach the sun and air, a failure results; seed usually have this food stored in proportion to size, so that gener-

ally seed should be covered in soil in proportion to size.

Annuals started under glass may be turned into the open border the last of the month, or early in June; and most varieties may be sown in the open air during the month; and here the question arises, What annuals shall I plant? The catalogues will present a long list, so that the novice is puzzled in selecting, and even the amateur is at fault, frequently, to select from the novelties presented. The following list will embrace some of the varieties that may be safely recommended for general culture: Sweet Alysium, Snap Dragon, Asters in variety, Clarkias, Convolvulus, Dianthus or pinks, Gilias, Martynia, Linum Grandiflorum, Mignonnette, Marigolds, Nemophilas, Pansy, Phlox Drummondii, Portulaccas, Petunias, Stocks, Nasturtium, Whitlavia, Zinnia, Candytuft, with some of the following as everlastings: Acroclinium Rosum, Rhodanthe Manglesii, R. Maculata, Atrosanguinea, Maculata Alba, Helichrysum or straw flower, in colors, Xeranthemum in variety, Ammobium Alatum, and the old Globe Amaranth, Gomphrena Globosa.

Some of the more hardy bedding plants, such as verbenas, petunias, etc., may be put out the last of the month.

Bring out the dahlia bulbs and plant them in sand in a warm exposure, and when the sprouts have made three to six inches, take them off and pot or plant out where they are to grow.

Plant out Gladiolus and other spring bulbs, not already put out; give Gladiolus good exposure to the sun, and plant in clumps of half a dozen in good soil.

Small Fruits.

THE HORNET RASPBERRY.

WHEREVER it can be grown, and well taken care of, well protected during the winter, the Hornet Raspberry will produce abundant fruit. The public have had very little accurate information concerning this variety for the last two or three years. Even the latest notes of Mr. Fuller concerning it have been in his *Small-Fruit Culturist*, wherein he describes it as "very large, conical, deep crimson color, grains variable in size, juicy, subacid, good, moderately firm flesh; canes very strong, erect, spines short, purplish, fruit-stems very long—productive," but adds that "it promises to be a good market variety;" beyond this the public have had little information. Major Freas, of the German-town *Telegraph*, has given it a practical test on his grounds, and recommends it highly. We give his report:

"Having fruited this variety of the raspberry for years, we are willing to risk our pomological reputation in pronouncing in its favor, and recommending it for general cultivation. It is

the largest and most beautiful of all the family, and comes next, or side by side, with the Hudson River Antwerp and Brinckle's Orange in point of flavor. It appears to be a robust grower, and it is a most abundant bearer; besides, it continues to bear for nearly twice the length of time of others. It throws up shoots or new canes sufficiently numerous to supply an extended bed in two years.

"The Hornet is a French variety, and is not quite hardy, requiring to be laid down on the approach of cold weather. But this scarcely amounts to an objection, inasmuch as we believe it to be the true policy in the cultivation of all raspberries that they should be pruned in November, just as they are desired to be in the spring, laid down, and covered with a few inches of earth. Ours have uniformly turned up in the spring, green to the very tips, and always producing excellent crops.

"The Hudson River, though a berry of large size and good quality, is not a free grower; indeed, some people can do nothing with it. We have also met with some difficulty in propagating it, and although we have been growing it for some years, we have yet only a small bed.

"The reason the Hornet has not become popular for market is simply because it has to be protected in winter; but this is not a valid objection to a berry of such character. One man ought to lay down in a day half an acre, and being laid down they seldom if ever fail of producing a heavy crop. Besides, it will sell for about twice as much as any other variety."

RASPBERRIES.

WRITERS in the agricultural press for the past three years have urged upon farmers and fruit-growers the necessity of the culture of a greater *variety* of fruits in their gardens or on their farms, and beginners in fruit culture have responded promptly. Many a grower, who pinned his faith solely on a few acres of strawberries three years ago, now finds the propriety of a *mixed* system of fruit culture and more kinds of fruit. Near the town where our own farm is located, two years ago there were no raspberries of any kind whatever, but now more than forty acres can be pointed out.

One of the most puzzling things to a beginner is to make a good selection of varieties, and the more he consults standard authorities, or the more he learns by inquiry from leading authors and pomologists, the worse is the confusion. Each has his favorite, all are full of caution as to the adaptation of each variety to different soils and climates, and likewise the firmness of the berry for carrying to market. The Hudson River Antwerp is considered, in New-York market, the standard Red variety, and yet outside of a limited strip of land, up and down the Hudson River, in the neighborhood of Poughkeepsie, how seldom it is heard or spoken of, and how little it is grown!

In the West we find the Kirtland, Naomi, or Brinckle's Orange becoming popular, but in the southern portion of our Middle States there has been a scarcity of such varieties as could adapt themselves to the light soils and withstand the scorching sun. The black-caps thrive well everywhere, and in their wonderful natural habit of adaptation to all soils and climates, East or West, they are a perfect blessing to both grower and consumer. All kinds of black-caps are worth cultivating. To those who can not afford the higher prices for the latest novelties, the old standard sorts of the Doolittle and Seneca will be quite sufficient. Of the *red* raspberries, public opinion seems to have settled down on the Philadelphia as the *surest* to grow. The quality of this fruit varies greatly between a Northern and a Southern cultivation. In central New-York, growers find no fault with its growth, but in comparison with others of better quality the taste is quite flat and insipid; but in Southern New-Jersey, south of Philadelphia, its growth and flavor are alike unsurpassed. In those sections, for all qualities necessary to make a perfect market berry—hardiness, productiveness, firmness of flesh, and fair quality—the Philadelphia is the standard sort. Other varieties are being tried, but the progress is not rapid. The Clarke is most promising, yet very little fruit has been produced. It has been largely planted, and seems to adapt itself to all soils and withstand alike the heat of summer and cold of winter. It is feared that the berry is not firm enough for shipment long distances.

The above four varieties we can unhesitatingly recommend to all cultivators in all parts of the United States as possessing the largest number of good qualities for general cultivation, and the only kinds which as yet possess the greatest probabilities of success.

The profits of raspberry culture remain yet to be determined. If the grower obtains only \$100 per acre for his first crop, he must not be disappointed. If he obtains \$300 to \$500 for the second crop, he can feel satisfied. We do not think that the average receipts of raspberry plantations will vary far from these figures. There are individual cases, certainly, where as high as \$800 and \$1000 have been realized per acre from small patches, but we have never yet heard of a full acre yielding exactly that sum. These high figures are unsafe estimates. An amateur who adopts them as his guide will surely meet with disappointment.

PRUNING RASPBERRIES

THE following letter was received at the Fruit-Growers' Club, New-York, in answer to a previous communication from a correspondent. (See March HORTICULTURIST, page 91.)

"I notice the inquiry about pruning raspberries, and the answering instructions of the 'Club' not to summer prune. My experience

is quite the reverse of this. I find it much better to *check* the growth at the required height by nipping the growing tips, rather than to leave them to make a slim, rambling growth, and in fall or next spring prune off and *throw away* the excess of wood, which should and could have been incorporated in the bush, making it stronger and more productive. This is particularly needed in the sorts that propagate from the tips; though "prune for fruit" is the word among experienced growers for all varieties as my observation extends. The lower you can get the bush and the broader on the top, the more fruit—*sure*. The bush is stronger to sustain itself and its load of fruit; harder in winter, (because possessing more vigor and being nearer the ground,) and not so much affected by winds, which not only test the plant's powers of endurance, but sway and break the canes of the higher bush. Again, in summer the dense, broad top is a shield to the roots from the heat of the sun, keeping the ground moist and cool, thus greatly helping out the fruit during a drought. Check the upward growth; then, *whenever* it is high enough, say two feet, and the side growth when sufficient breadth is obtained, according to the distance of plants apart, and amount of room desired between, not pruning after September first, but leave the *final* shortening in and shaping of the bush till after the season of growth is passed. I never saw a plantation pruned in this way and properly cultivated fail of a good yield, even during severe droughts. R. JOHNSTON, JR.

"PALMYRA, N. Y."

THE NAOMI RASPBERRY.—In answer to the inquiry whether, after all, the Naomi is not really the same as the Franconia, we give here the opinion of F. R. Elliott, as expressed lately in the *Ohio Farmer*: "I have no hesitation in saying that whoever purchases *true* Naomi will have no cause to regret the outlay. The cane is somewhat like the Franconia, not quite as stout or strong, and for many years has proven here on the Lake Shore perfectly hardy, even to the tops. The fruit is about the same size as Franconia, a little more conical, grains not quite as large, equally or perhaps more firm, not quite as acid, but richer and of better flavor." He admits that there has been an unaccountable mixing up of plants and seedlings in the garden where originally grown, and on visiting it nearly ten years ago to obtain some plants, found a large number of seedlings of indifferent value, and only one in the entire row that appeared to be the genuine plant, and accordingly was described and figured as such. Since then quite a number of plants have been sold, and as naturally would happen, "considerably mixed." Whoever has the genuine plants, beyond a doubt, will do well to keep them genuine, and satisfy the public of the fact.

THE COLFAX STRAWBERRY.—A fruit bearing the name of one so popular and well appreciated by the people of the United States ought to be of the very best character and nobly sustain its high origin. Some fifteen years ago it was introduced into South-Bend, Ind., among a lot of other seedlings, by Schuyler Colfax, who had received them from a friend. Being well cultivated, its good qualities became well developed, and attracted notice, so that good fruit judges considered it quite an acquisition. It has not attracted any special attention outside of the locality of home growth until within the past year, when it has been largely advertised as a leading novelty. The description is as follows: "Fruit of medium size, symmetrical and uniform, hanging in clusters; color, dark crimson; flavor, subacid; has a large percentage of juice; season, medium to very late. The plant is hardy, very vigorous, and with good care and culture yields bountiful crops. It produces larger shoots than the Green Prolific or the Agriculturist, and has a dark-green luxuriant foliage which does not burn in summer." It is proper, however, to say that candid observers declare it too soft for a market berry, lacking sufficient firmness for shipping and good carriage, while in flavor it is not quite equal to some of the varieties already cultivated. Nevertheless, it has not yet been generally tried, and its good qualities may be better developed in one soil and climate than another, hence we think it wise to await further reports before giving a definite judgment.

EVERBEARING STRAWBERRIES.—We observed, a few weeks since, in the numbers of a couple of our Western journals, illustrations of a new Mexican Everbearing Strawberry, with a column and a half of indorsements and descriptions. Our first thought naturally was to cry, "*Look out for humbugs!*" but some one is ahead of us, who says: "I have seen the strawberry mentioned above, which is termed the Mexican, which I think is nothing more than the Alpine. Persons wishing to have strawberries bear through the season have to use different cultivation, as is mentioned in Mr. Pardee's work on the Strawberry, which will satisfy any one who is not posted on the cultivation of strawberries. Now, I have not the least doubt in my mind but that persons buying plants of this Everbearing Strawberry will make a failure: 1st, because it is no more of an everbearing than other sorts, and 2d, because they do not know how to grow them, as the soil has at least one half to do with it, which will be found out after trial."

STRAWBERRY PLANTS.—Growers desiring to extend their beds by transplanting runners will do well to remember this simple rule: The first runners from any plant are the weakest, the second but little stronger, while the third are best of all. Cut off the first and sec-

ond growth of runners after fruiting, but leave the third root, and they will invariably make good, strong, healthy plants.

The Orchard.

MANAGEMENT OF ORCHARDS.

C. BUTTERFIELD, of Sidney, Maine, writes to the *Maine Farmer* a sensible letter on his method of managing his orchards, which is sufficient to prove that, in regions of the country where there is the greatest difficulty in raising fruit, there the best care is bestowed on the trees. Every farmer will be pleased to read and remember his letter:

"From close observation I have learned that common lime, or old plaster or mortar, is an excellent thing to scatter about the trunk and roots of apple-trees. It is true, old mortar is not always at hand, but to those that do have it let me say, use it in your orchard. One thing truly is needful in the management of young orchards. That one thing, I believe, is great care and study in pruning, which should be done very early in spring. Do not trust your trees in the hands of a careless, uninterested man, who knows nothing about symmetry or proportion, or the use of a saw or knife. As a rule of my own, I make the cut or wound in pruning as little as possible, and the smoother the cut the better it is. I have noticed many young trees grown up like bramble bushes, not even a chance for a small boy to get into the tree to pick the fruit, if such trees ever have any fruit worth picking. Now, here is where the great error lies among many who have young trees. It is in allowing them to grow at random when very young, then having them grafted by some one who cares more to line his own pocket than he does for the interest of his employer; and lastly, in not pruning. A tree may be very thrifty, even after it has had its top taken off by the grafter, and every scion may grow rapidly; but that is no sign that it is, or will be, a well-shaped tree, or one that will bear much fruit, unless the pruning-hook is carefully used. Men are too tender-hearted oftentimes in taking away a healthy scion. Where two scions have been set in a stock, and both have grown equally, it needs some courage to cut one of them off; yet, I have found that this is absolutely necessary for the good of the tree, and in cutting out such scions I use the same judgment that one would in thinning his corn the last time. Some cut the scion off about an inch above the main stock, leaving an ugly-looking stump or knot sticking up to be healed over by the other scion. This, I think, is wrong. A better way is to put the saw between the scions, with the teeth down to the bottom of the one you would cut off; lean the saw against the other, or nearly so, and saw the scion off with a part of the solid stock, on a bevel or slant. This will allow the remaining

scion to expand without hinderance, and the healing will be done mostly by the old stock, and will generally make a smoother limb after it is well healed than by any other method with which I am acquainted.

"Another thing is too often neglected after pruning, and that is paint. The inside or wood of a tree is protected with its natural covering, bark. Where this is entirely removed the wood will crack, unless wax or some substance is used as a temporary covering. I use good thick paint about the same color of the tree, which prevents the wood from cracking, and will not fall off."

CULTURE OF THE QUINCE.

N. OHMER, of Dayton, O., contributes to the *Country Gentleman* his experience in the care of quince-trees:

"Some ten years since I began to turn my attention to the cultivation of fruit, for pleasure and profit, and the then neglected quince I made a specialty, planting three quarters of an acre, at ten feet apart each way. The fourth year after planting, I sold quinces enough to pay for the trees and their cultivation, and each year since, with but one failure, I have had good crops, of course yearly increasing its quantity, and I might say also its quality. The latter no doubt is on account of the improved cultivation and fertilization they receive.

"The first year I offered quinces for sale in quantity, I found a difficulty to dispose of them, as it was then known only by a few that the quince was one of the most delicious fruits we had for stewing and canning, as well as for jellies and preserves. Customers annually increased their orders, so that I last season disposed of my crop of about three hundred bushels, from the three quarters of an acre, at from \$2.50 to \$3 per bushel, net.

"Those of our readers who attended the Ohio State Fair, last fall, when passing around Fruit Hall, will remember the pile of quinces that swept all the premiums then offered on them. These were mine, and I could have shown many barrels of the same kind.

"I was informed, when I planted my first, that ten feet each way was the proper distance to plant them. I obeyed the rule, and for the last few years the limbs have grown into one another, so that it is almost impossible to get through the orchard. I have since practiced, and would unhesitatingly recommend, fifteen feet as near enough to plant the quince in good soil.

"The tree is quite handsome when properly pruned, cutting out all interfering limbs within the tree, and cutting back such limbs as grow out of proportion. I spade the ground once a year early in the spring—scatter my coal ashes, about a peck around each tree, near the trunk. As soon as the ground is spaded, I scatter from one quart to three pints of salt over the ground

under each tree; then again the same amount when the quinces are about the size of a walnut, half grown. Salt is a special manure for the quince, the best investment I make is the money I pay for the salt I scatter under my trees.

"The Orange is the best and first that ripens with me. Ray's Mammoth I highly prize, on account of its large, smooth, and handsome form, beautiful color, and good quality. The Pear Quince with me grows of good size, ripening after the Orange and Ray's; prolongs the season until cold weather; would not recommend the planting of them largely. My quince orchard now contains about five hundred trees, most of which are yet too young to bear."

DISTANCES FOR FRUIT-TREES.

ONE of the great horticultural questions of the day seems to be to determine whether the trees in our orchard should be planted as *distant* apart as ever, or *nearer than usual*. Several writers in THE HORTICULTURIST have recommended *close planting* as being not only the safest method of protection, but affording the best condition for perfect healthful growth. Others have recommended evergreens, and some have practiced the principle with partial satisfaction, nevertheless are slow to give a full decision as to its usefulness. A writer in the *Western Rural* (J. Weldon, of Rockford, Ill.) takes up the cudgel for close planting and argues as follows:

"I was somewhat surprised to learn that at a meeting of the Central Illinois Horticultural Society, after discussing the distance apart to plant apple orchards, the proper distance was decided to be thirty feet. To show my faith by my works, I would say that 33 years ago I set out 100 apple trees in rows 20 feet apart each way. Some 15 years thereafter, I made an addition of several rows on the north and east sides, making these rows just one rod apart.

"Some 14 years ago, a friend, about to plant an apple orchard on the prairie, applied to me for directions how to proceed. After discussing the matter, he employed me to go to a nursery, and make such a selection as I thought best. He set them 20 feet apart, with belts of cotton-wood on three sides. In a few years after, having formed the purpose to plant more trees, I suggested to him that, instead of planting the additional trees outside the belts of forest trees, he plant one tree where the diagonals of each square crossed each other, changing the lines of rows, and by so doing making the rows a trifle more than 14 feet apart. It is generally conceded that but very few on our prairies have as thrifty and as promising an orchard as has that friend.

"From twenty to thirty years ago many apple orchards were planted on our prairies. Some of the trees were put as far asunder as 30 or 40 feet. Of such very many less than half those

trees are now alive. In one orchard in particular, which was taken from the same nursery as was mine, but I think was set nearly twice as far apart, I doubt whether more than one fourth part of those trees are now alive, yet but one of my first planting is dead, and that one died through my own folly in cutting off two of the principal top branches some twenty years ago.

"Were I now to plant an apple orchard on the prairie of Northern Illinois, 15 feet is as far apart as I would have the rows, and in Central Illinois 20 feet would be my greatest distance, even if well protected by broad belts of evergreens, and notwithstanding the residents there go for much less than half as many trees to the acre."

NEW APPLES

J. C. HOWE, of Lowville, Lewis Co., N. Y., sends scions of several new apples, which originated in his section and are highly esteemed:

"Two varieties of apples, of which I send scions, are both known to have originated with an amateur fruit culturist who, many years ago, resided here—Dr. David Perry—and the scions herewith sent I have obtained direct from the trees in the doctor's old orchard.

"The fruit has been known with us for many years, and both varieties have an established reputation for superior excellence as table or eating apples.

"The 'Perry Red Streak' is a medium-sized apple, improving both in size and flavor by cultivation, of a flattened form, and smooth exterior, of a bright reddish color, resulting from an abundant supply of vermilion stripes upon a brownish green. These red streaks strike through the flesh, which is a pure white, nearly to the seed-case. The flesh is of a most delicious, spicy, subacid flavor; small seed, thin skinned, short stem, deep-seated. The tree is a fair grower, spreading, hardly standing the rigors of our cold climate without suffering; is a profuse bearer; in fact, needs thinning for safety. The fruit ripens about the middle of November.

"The other scions are of a variety known among us as the Golden Pippin; but to distinguish it from the apple known by that name among pomologists, I suggest the name of 'Davenport Pippin,' out of compliment to the present proprietor of the old 'Perry orchard.' This apple is, if any thing, superior to the first mentioned, being above medium size, of rich, light yellow color, thin and delicate skin, crisp flesh, mild subacid taste, and similar to the Red Streak."

LIST OF TWELVE BEST PEAR-TREES

CULTIVATORS will find the following one of the very best selections for a list of twelve first-class pears:

Doyenné d'Été, Rostiezer, Bârtlett, Belle

Lucrative, Louise Bonne de Jersey, Sheldon, Seckel, Duchesse d'Angoulême, Beurré d'Anjou, Lawrence, Dana's Hovey, Glout Morceau. The above are arranged in the order of ripening, and are all first-class pears for either market or family use.

WASH FOR FRUIT-TREES.

LAST year an experienced fruit-grower, the owner of a fine orchard near Niagara River, Western New-York, wrote us that in the care of his trees he had practiced one simple method with eminent success. He takes lye from leached ashes, mixes a little grease with it, heats it quite warm, and with a syringe throws it up into all parts of the trees, branches and trunk. It will effectually kill all kinds of caterpillars, and all kinds of worms that are either infesting the trees in nests or running over the bark. Trees treated in this manner were exceedingly healthy, beautiful and vigorous in appearance, possessing a smooth, glossy bark, and bore the best apples in the country. The remedy is easy and cheap.

The Vineyard.

WHAT VARIETIES OF GRAPES SHALL WE PLANT?

THAT question has been asked thousands of times, and still without a definite answer. Grape culture, like all other departments of fruits, meets with varying success in varying climates on varying soils.

We have recently read an article on this subject by the editor of the *Grape Culturist*, St. Louis, Mo., which we consider so practical and sensible that we transfer it entirely to our columns:

"What shall we plant for market? For Northern climates we think it advisable to plant Mary Ann, Perkins's, and Hartford Prolific, not because they are *very good*, but because they are *very early*; and if people can eat and laud the Dracut Amber at the North, they can surely enjoy these. To these we would add, Telegraph, Concord, Rogers's Nos. 3 and 4, North-Carolina Seedling, and, for a white one, Martha. We think these would succeed *anywhere* almost; for our latitude and further South, we would add Rogers's Hybrids Nos. 1 and 8. They ripen late, have magnificent, showy berries, would, we think, keep well, and are productive and healthy.

"For family use and the table.—Here we take it for granted that quality is to be considered indispensable. While therefore it will do no harm to have a few of each of the former, and a pretty good dose of Telegraph, Concord, Rogers's Nos. 1 and 4, and Martha, you can not get along without Creveling, Maxatawny, Delaware, Salem, and Herbemont. These five, with Rogers's No. 4, are the best American grapes we have yet

tasted; better than the much lauded Iona, purer in taste and flavor; and if you want to add something exquisite to them yet, take the Alvey and Clara. They may not bear immense quantities, but they are so good that you can afford to give them a little room and extra care. For Northerners, the Herbemot, Clara, Maxatawny, and Rogers, No. 1 may not ripen, and we only can say that we pity them, because they can not know how good an American grape *can be*. They must leave them out, unless they intend to grow them in cold graperies, and for that purpose they would very likely prefer the Golden Chasselas, Black Hamburg, Bowood, Muscat, etc.

"For Wine.—Do you want to make the everyday drink for the million, the wine which is intended for every body, to take the place of beer, whisky, and other compounds, of which you can make the greatest *quantity*, but which will also bring the lowest price, in short, the *cosmopolitan* wine grapes? Then plant Concord, Martha, and Rogers's No. 1, if you live in a climate where they will come to full perfection. We may perhaps add to this the Clinton and Rogers's No. 9, as well as Telegraph, which promise to become valuable for this class. Or do you aim at high *quality*? If so, plant for *red* wine the Cynthiana, Norton's Virginia, and Creveling; for *white* wine, the Delaware, Taylor, Herbemot, Martha, Maxatawny, Cassady, Cunningham, Louisiana, Rulander, and Rogers's No. 3.

"These are the wines with which we can fearlessly challenge the choicest brands of Europe, and which are destined to make a name and a mark for American wines.

"We now come to soil and aspect. If you have an eastern exposure, with deep, rather moist soil, plant Concord, Martha, Rogers's Nos. 1, 4, 8, 9, and Telegraph. You may add to these Cynthiana and Norton's, as they seem to flourish everywhere. Ives's would also do here; in short, all the Labrusca family.

"If you have a southern aspect, a warm, porous soil, mixed with lime, plant Herbemot, Cunningham, Rulander, Louisiana, Cynthiana, and Norton's. They are 'children of the sunny South,' and will flourish best and make the richest wines in such soil.

"For north-eastern and northern exposures, also for sandy river bottoms, in short, for deep, rich, sandy soil, plant Delaware, Alvey, Creveling, Cassady. Our hot summer's sun seems to be too much for them, and their foliage often suffers from sun-scald in southern locations.

"Clinton and Taylor seem to be cosmopolitan in their habits, and will grow and flourish anywhere."

THE IVES SEEDLING.—The editor thinks very little of this, and says: "But very little of the Ives wine has been made *outside of Ohio*, and what we have tasted from there, as well as what we have tasted of it made here and in Illinois, has given us no very exalted idea of it. It may belong to the first class, to the cosmopo-

litan, cheap red wines; but no sample which we have tasted as yet has seemed to us at all worthy of taking rank in the second class. If *such* wine sells at \$3 and even \$4 per gallon from the press, we can only say that local patriotism must have been very much developed in the buyer.

"The *Vine* seems to be healthy, hardy, and productive *after* the fourth year. But the grape is little better than Hartford Prolific, which it closely resembles. We shall be very glad, indeed, should the sequel prove that we were mistaken, and that the millions of vines now planted of that variety, *because* it took the premium of the Longworth Wine-House, should prove a profitable investment for their owners. At present, *we* would rather plant Concord."

GRAPES IN CONNECTICUT.

P. M. AUGUR, of Middlefield, Ct., writes us as to the progress of grape culture in that State: "It does not seem to receive much attention, and the impression is widely spread that it does not pay to attempt cultivating a crop so uncertain. Intelligent management and good culture are essential to success, and these are scarce qualities among the growers of this State. Where profit is expected and not quality, none but the hardy grapes should be set. The question of varieties is a puzzling one, for upon a judicious selection depends success or failure.

"The Concord, thus far in Connecticut, is in advance of all other varieties. None, I presume will claim any special merit for quality, but its great hardiness, vigor of growth, and productiveness of fruit of fair quality make it a favorite with the masses; in every exhibition that I have attended, its popularity is largely in excess of any other variety.

"A vineyard in New-Haven County, where Concord was planted, made a very heavy yield last year, whereas the Delaware, the Iona, the Creveling, and some other varieties were almost a failure.

"For an *early* grape the Hartford Prolific is the most productive: the fruit is of fair quality, and when the vines are well pruned and cared for, the bunches are tolerably perfect, and bring a good price in the market.

"I have seen a vine of this variety, covering the north side of a building, loaded with fruit, well ripened by the tenth of September; it is to be admitted, however, that the fruit drops rather easily from the clusters.

"The Diana is a good grape here when well ripened, and keeps remarkably well, but is too late to ripen every year.

"The Rogers Hybrids are hardy and promise well, particularly Nos. 1, 4, 15, and 19.

"We still want a grape equal to the Catawba in size and quality, as hardy and productive as the Concord, and as early as the Hartford Pro-



Fig. 1.—Chicken Feeding-Dish.

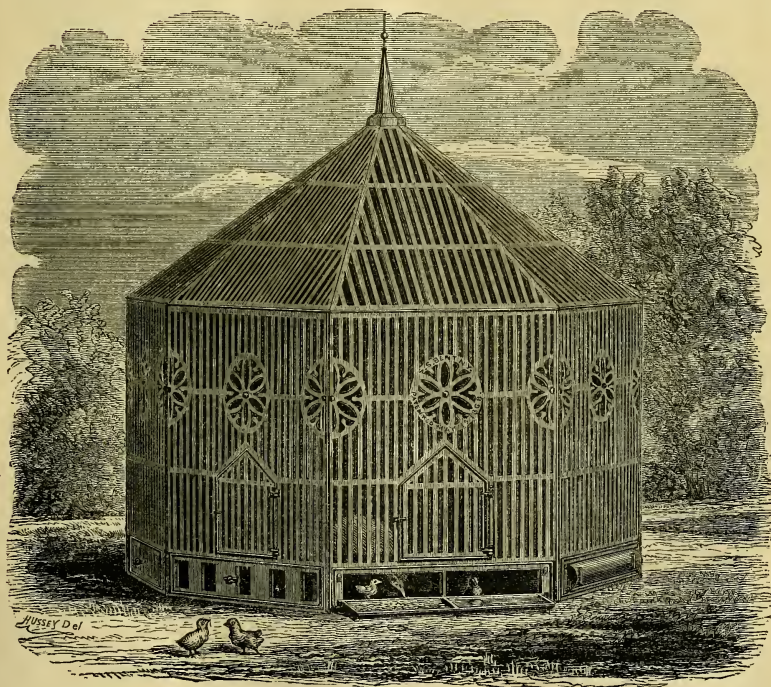


Fig. 2.—Ornamental Iron Chicken House.

lific. A new variety with these requisites will be a great achievement.

"In the mean time let us prove all things and hold fast to that which is good."

...

THE CYNTHIANA GRAPE.—This variety was highly praised in THE HORTICULTURIST and other journals in 1869, for its fine flavor, sprightly character, hardiness, and freedom from disease. Subsequent experience is bringing out fuller information as to its value. Samuel Miller, of Bluffton, Mo., communicates his experience to the editor of the *Germantown Telegraph* as follows "Just at this time, when the above-named grape is becoming known to some extent, and has proven to be a wine-grape of almost unsurpassed excellence, it may not be amiss to warn the public against getting spurious vines. Its strong resemblance to Norton's Virginia, to which it is closely allied, will give unscrupulous dealers an easy task to deceive. It has cost me considerable to secure a small lot of vines and wood for my own use from a reliable source. It is one of those varieties that are very difficult to propagate, but takes very well by grafting.

"North of 40½° I doubt if it would thrive very well, except in long seasons; but where it will do so, it is certainly very valuable."

Poultry.

We give this month two very pretty designs of Poultry Fixtures. Fig. 1 is a chicken feeding dish, a very pretty and useful design, made of iron, with division for feed and for water.

Fig. 2 is a continuation of designs for Iron Poultry Houses, which we have hitherto given. This design, of course, is expensive, and intended to be made only to order, but its neatness and beauty will excite the admiration of all poultry fanciers.

Literary Notices.

MY TEN ROD FARM; or, How I became a Florist. By Miss Maria Gilman.

Whether or not the story be entirely true, and we much doubt the reality of it, still the volume is very interesting and shows what might be done by a woman in cultivating flowers. The capital appears to have been well laid out and the business judiciously managed, while the returns are very flattering. The book will be eagerly read by ladies.

HOW TO READ CHARACTER. By S. R. Wells New-York.

We once disbelieved Phrenology, but one day got our "*Bumps*" examined. The analysis of our character was so correct that we are forced to

admit Phrenology is a useful science. The above volume is issued as an aid to all who are anxious to "*know themselves*," and if for better, it will go on a good mission.

THE PRAIRIE FARMER.—Among all our exchanges we find a few which we can sit down to enjoy a thorough appreciative perusal of. We mean the *Prairie Farmer*, which, since its enlargement, has been more active, enterprising, and interesting than ever. If New-England in her first horticultural experiences had enjoyed the possession of as good a paper as the *Prairie Farmer*, we think horticulture would be far more popular than it is even now. Western farmers and fruit-growers may feel thankful for so good a journal as the *Prairie Farmer*.

THE SMALL FRUIT RECORDER.—We have received the first number of this new journal, and are much pleased with its neat appearance. The field it aims to fill is a useful one. With good practical editors and writers, we think it will prove of great influence; certainly it will be a benefit to the entire community. Published at Palmyra, N. Y.

NEWSPAPER DIRECTORY.—One of the most useful volumes of the day has been laid on our table, entitled, *The American Newspaper Directory*, by Geo. P. Rowell & Co., this city. The expense of publication has been great, and the labor tedious, but there is presented such a valuable list of journals for permanent reference, that no business man can afford to be without it. The efforts of the publishers are worthy of high commendation, for its accuracy, neat style, and their business enterprise.

...

THE DEATH RECORD.—One by one the band of our early horticulturists, "old-time friends," is being broken. A few months since our much-beloved friend R. G. Pardee went the way of all the earth, loved and beloved, leaving a name and a record behind fragrant with useful deeds and pleasant memories; and now we have to chronicle the death of Wm. R. Prince, of Flushing. It was only a few days before his death that we received a kind note from his own pen, written with his usual force and energy; and then came the announcement of his death. Mr. Prince has accomplished much in his life that was good, entertaining, and useful in horticultural subjects.

A passionate admirer of flowers, he took a special delight in distributing them free by thousands of packages throughout the country, gladdening many families, and stimulating a taste in localities where perhaps it never had been known or developed.

Thomas Affleck also, of Brenham, Texas, one of our foremost Southern horticulturists, has laid down his shears and pruning-knife and gone beyond the silent influence of fruits or flowers.

Well may we say of them all: *They are dead, but their works do follow them.*



Cultivation of Roses and Flowers.

BY PETER HENDERSON.

THE subject of the "Management of Plants suitable for City Gardens" is far too comprehensive to be treated of in a single paper.

From the fact of the majority of our city gardens being shaded for two thirds of the day, many of our most beautiful plants are never seen in perfection ; for few indeed are the flowers that will bloom without sunshine. But under these unfavorable circumstances people must do the best that can be done. The first flowers opening in spring are the hyacinth, tulip, and crocus ; these are particularly adapted for city gardens. Blooming rather better than most plants in partial shade, they enliven the garden in April and May, while the more tender bedding plants are yet in the shelter of the greenhouse. To succeed the spring bulbs, may be planted in the same beds verbenas, fuchsias, geraniums, lantanas, etc., as taste or fancy may dictate. These are better suited than seeds to plant in the beds that have contained bulbs, as their more rapid growth is better suited to the untilled soil, which can not well be dug up until the bulbs have ripened off.

One of the most universal complaints of the owners of city gardens is, that the rose no longer does well with them. This is partly owing to two reasons : too much shade, and the increasing ravages of the rose-slug and other insects. The first difficulty to some extent fosters the second ; for we find wherever we have shade or shelter we have an increase of insect life ; consequently, then, to avoid both difficulties as far as possible, roses should ever be planted so as to get the sunlight direct. For city gardens there is no remedy so effective to destroy the rose-slug as whale-oil soap, applied in the proportion of one pound to ten gallons of water. This, if steadily syringed on the rose-bushes, just as the leaf begins to develop, and before the insects are seen, and continued persistently for eight or ten days, will guarantee entire exemption from the rose-slug.

In the suburbs we have, however, a much more pleasant ally to help us in exterminating our insect enemies in the English sparrow, which now infests our houses and gardens in hundreds all along the Bergen ridge, from Hoboken to Bergen Point ; being found in greatest numbers, however, wherever they are best cared for. We are favored with a full complement of them, and they most gratefully return the little care given them in winter by their sweeping destruction of the rose-slugs, etc., from our rose-grounds in summer. It used to require one hand doing little else during the whole summer except to shake off and destroy the slugs on our rose-beds. But since the advent of our feathered friends, in 1865, not an hour of such labor has been required. It

may well be supposed, then, that the sparrows are tenderly cared for. But this has led me a little from my subject, for sparrows can hardly be made available to suppress the insects in city gardens ; for, although they are familiar to a degree, nearly as much so as barnyard fowls, and seem never to be so well satisfied as when sheltered by the habitation of man, yet, with all their friendly assurance, they do not seem quite to relish as much of mankind as is seen in our large cities, and hence are not likely ever to come there in numbers sufficient to destroy insects in densely populated parts.

Of the varieties of roses best suited for city gardens, particularly in places where the sun has not full sweep, we advise the planting only of the strongest growing and freest flowering sorts. Of crimson varieties we would name Agrippina and Gen. Washington ; of pink, Formosa and Eugénie ; of yellow, Saffrona and Mme. Falcot ; of white, Mme. Mavin and Sombriel ; of carmine, La Phenix and C. Bobinsky ; of straw color, La Pactole and Isabella Sprunt ; of blush, Pauline and Fleur de Cymes. These comprise a few of the most distinct sorts of the monthly or ever-blooming class. These, however, in most locations would not stand our severe winters unprotected ; but this protection is very simple, and, in all places where water does not lie about the roots in winter, will be found to be entirely successful, if the covering-up is delayed to the middle or end of December. The great danger is in covering too soon. The rose is almost a hardy plant, sustaining a frost of five or ten degrees above zero without injury. Therefore, there is no occasion to be frightened when the first cold snap comes in October or November, and go to covering them up then ; for at that time they have not sufficiently ripened their shoots, and covering-up of course prevents the further process of ripening, and the plant is often killed by the covering before the time the necessity occurs for covering at all.

The covering-up may be done in various ways. When done on a large scale, we bend down the plant to a slight excavation made on one side, so that when bent down the plant is about level with the surface ; over this is placed a sod (grassy side downward) of a size sufficient to cover the whole plant, and the work is done. Or, where sods are not procurable, the soil itself will do nearly as well ; or they may be strapped up in the usual way, with two or three inches of straw. But, in whatever way it is done, let the caution be repeated against the common error of having the covering-up done too early in the season. Roses so protected have a three-fold value over any that can be purchased from the florists in the spring. The roots being undisturbed, a vigorous, unchecked, and natural growth is given the succeeding spring.

One of the most beautiful adornments to city gardens are climbing plants, besides being the most available to economize space.

Of climbing roses, Baltimore Belle, Prairie Queen, Fulgens, Madame Flantres, Scarlet Greville, and the new fragrant climber, Gem of the Prairies, originated by Adolphus Burgess, of East New-York, stand unrivaled. All these are entirely hardy, requiring no protection in winter, and embracing nearly all the shades of color found in the hardy section of climbing roses. There are many other suitable climbers among the forest, and best known are the blue and white Wistaria honeysuckles of all sorts, the sweet-scented White Clematis, and those of the large flowering class, Clematis azurea, grandiflora, Jackmani, etc., whose flowers of blue, white or purple, hovering among the foliage, look like mammoth butterflies. In direct contrast to these is the Bignonia, or trumpet flower, with its trusses of orange, scarlet, and rampant growth—one of the best of all climbers to cover up a decaying tree or an unsightly out-building. Two comparatively scarce climbers are the Akebia quinata and Ampelopsis tricolor ; the former a rapid climber of neat foliage, with inconspicuous flowers of brownish crimson, but exhaling a powerful and delicious perfume. The latter, having a vine-like foliage, marked with a silvery shading of white and rose, ornament sufficient without flowers, which in this also are not conspicuous.

Lilies of all kinds, particularly the Japan, do well in our city gardens, being generally free from the attacks of insects and disease, and, being all hardy, take care of themselves. The gorgeous gladiolus is now also much cultivated. It never fails to flower, and its beautiful markings in the different varieties are ever a source of wonder. This, however, must be cared for, as Jack Frost has no mercy on the gladiolus ; but whenever

its stalks die off, the bulbs may be lifted, dried, and placed in any place where potatoes will keep until spring. Before leaving the bulbs, we must not omit to name the tuberose, something that every one who cultivates a flower seems to think a necessity; but something, too, that does not always prove to be satisfactory—either that it does not flower at all, or its flowers come too late. For this section of the country, to have the full development of flower, the tuberose should be started either in a hot-bed or green-house in April, and planted out in the open air the end of May or 1st of June.

Seeds of annuals are only fit to plant in sunny exposures; to sow annuals in the shade, a weakly existence will only be produced, giving few or no flowers and a spindling, straggling growth, of no beauty. But in open exposures, astars, balsams, candytuft, mignonnette, phlox Drummondii, portulacca, stocks, zinnias, and many others, may be sown to produce excellent effect.

In our business we find a growing taste for hardy herbaceous plants among our city customers; our sales for such being ten times greater than it was three years ago. Prominent among those in demand are chrysanthemums and phloxes, of which there are now hundreds of varieties, perennial lark-spurs, columbines, spireas, herbaceous peonias, the new variegated grasses; and hundreds of others are desirable and well adapted for inclosed yards, the native habitat of many of them being shady woods or ravines. I am averse to the use of shrubs or trees in city gardens. Shrubs are, with few exceptions, such as bloom for a very short period, and only once in the season; and the space of our city gardens is too valuable to be occupied for six months for the bloom only of two weeks or so in June or July. Besides, the great majority of shrubs grow too large for the limited space there allowed for the flower-beds, and tend too often to add additional shade to an already too much-shaded spot. The proper arrangement of plants in the flower-border is such as few owners have the experience sufficient to properly adjust. A lady knows how to arrange the furniture of her parlor, for there, once placed, it will stay; but in arranging her flowers it is very different. The modest-looking plant of *salvia* is not half so large as the gaudy carnation, when planted in May; but before September is well in, the carnation is nowhere to be seen, enveloped in the scarlet mantle of the *salvia*. Again, the fuchsia, fresh from the forcing-house of the florist, is planted against the south side of the fence, and with its scores of drooping buds and flowers holds its own for a week or two, but is not at home. Two or three days of blazing sun, with the thermometer among the nineties, comes, and the buds and flowers quickly shrivel and drop, and often the foliage also; while, had it been planted in partial shade, it would have bloomed in profusion for the summer.

Another common error is in crowding the plants too much; and still another, and that too in exceedingly bad taste, in mixing flowers and vegetables in the same bed. It is no more out of place to put a cooking-stove or wash-tub in the parlor, *when there is another place to put them*, than it is to plant cabbages or corn in the flower-border. We now and then come across most ludicrous instances of this kind. A few years ago a gentleman called at my office, and gave me an order for plants to be sent to his house up-town. It was rather an extensive order for a city garden—numbering some 150 bedding plants of various kinds, together with fifty tomato plants. All were duly forwarded; and I thought nothing further of the matter, until the gentleman called on me, two months after, saying that his plants had not done well—in fact, nothing at all had grown but the tomatoes. He had not a flower, he said, from all his large number; and insisted that I should go up with him and see what was the matter. Suspecting the trouble, I consented; and sure enough, there were no flowers but what were on the tomatoes. He had first planted his tomato plants a foot apart each way, and then huddled the flowers in between them. The space containing the whole might have been covered by a bed-quilt. The gentleman was evidently of a utilitarian turn of mind, and wished his seven-by-nine plot to be at once a source of ornament and use. The taste displayed in the majority of instances, both in our city and suburban gardening, is yet very crude—not fit to be drawn into comparison with that of London or Paris. But Boston and Philadelphia have long been under the fostering care of their flourishing horticultural societies, and they have done much to stimulate a popular taste for ornamental gardening, and their influence will extend more widely year after year.

Destroying the Curculio.

BY JOHN J. THOMAS, UNION SPRINGS, N. Y.

THE large crops of plums which my trees have borne of late years have brought me many inquiries in relation to the mode by which the fruit was rescued from the curculio. I have already published an account of some of my experiments, in different volumes of the *Country Gentleman*, but the readers of THE HORTICULTURIST may like to see a condensed article embracing the substance of these statements.

The only satisfactory remedies are those which kill the insects. Attempted repellants amount to nothing. Poultry and swine protect next year's crop by destroying the larvæ of the beetles which lay the eggs. Sweeping up the fallen punctured fruit operates in precisely the same way. These are useful auxiliaries where the curculios are abundant, and are sufficient when they appear in moderate numbers. In my own experience I have found nothing to compare with the well-known modes of jarring down on sheets. Several contrivances have been proposed for spreading these sheets under the trees. After trying several, I find nothing better, and none so cheap nor quickly made, as those represented in the accompanying figures. Fruit-raisers often omit the necessary care until too late, because they have no extension frames ready at the time. The one here described may be made in five minutes, and the sheeting, when done with, used for other purposes.

Procure the widest cotton sheeting that can be had, or a yard and a half or more in width. Narrower stuff will do for small trees. Cut it into pieces nearly or about three yards long. Two pieces will be enough for the use of one person. To stiffen them, take light wooden rods, two of which to each should be as long as the pieces of sheeting, and one or more equal to the width. Sharpen these rods at both ends with a knife, and thrust the sharp ends of the two longer rods into the four corners of the sheet, cutting a notch a short distance from the points, to prevent the cloth from slipping too far on. The shorter rod is then punched into the edges of the sheet at the sides, drawing them up at the time, so that this rod rests on the middle of the other two, and is held down snugly on them. (Fig. 1.) This cross-rod serves as a handle for the operator, in carrying the sheet from tree to tree, taking one in each hand. If the trees are quite

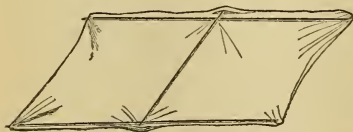


Fig. 1.

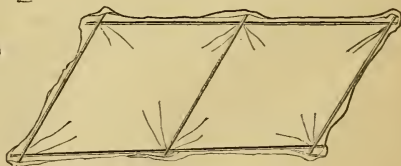


Fig. 2.

large, it may be necessary to stitch two pieces together, and to stiffen them by three cross-bars, as in Fig. 2. A notch cut near the end of each of the cross-rods will prevent the middle of the longer ones from springing or bending in, or a small nail may be driven through at the intersection. The rods may be pieces of lath, or slender green poles, with the bark peeled off and dried.

Should the insects be very abundant, it may be best to destroy them, not in the usual way by the pinch of thumb and finger, but by throwing them into hot water, or into kerosene, carried in a tin pail. In this case, the rods or frame should be double. The stiffeners along the sides, instead of being single rods, should be two shorter rods meeting in the middle, so as to form a hinge at that place, and the frame and sheet may be then folded together like a portfolio. The insects will fall into the trough thus formed, and are then shot down it into the vessel of oil or hot water.

I have employed a six-foot umbrella, made on purpose, and placed in an inverted position for catching them, but it was not so convenient as these sheets.

In dislodging the insects from the tree, much depends on a sharp, stunning blow. Shaking merely has but little effect; and the common practice of muffling a pounder to prevent injury to the bark is but imperfect at best. For some years past I adopted the practice of sawing off a limb of moderate size, on the end of which the blow might be struck without injury to the tree. (Fig. 3.)

This answers a good purpose; but the last year I found that by driving an iron spike into the trunk of the tree a perfect target was more easily made. (Fig. 4.) On the head of such a spike a very sharp blow might be struck with a hammer, ax, or sledge, and the certainty of bringing down all the curculios was much greater. Boring a hole into the tree with a small auger, or with a bit, the spike could be inserted with more certainty and security, or any other short, stiff piece of iron might be used.*



Fig. 3.

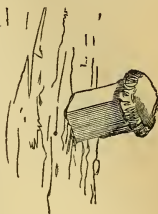


Fig. 4.

Previous to the year 1866, out of an orchard of seventy or eighty plum-trees, only three or four bore small crops of plums. This, I concluded, was too small a return from the trees, and I employed a man that year to give special attention to curculio-hunting. He was furnished with two frames like those described, and the work was commenced as soon as the calyx had dropped from the young and green fruit. The curculios had obtained a little start and had stung some of them. He went to each tree, and jarring down the insects on the white sheets, where they were easily seen, they were killed with a pinch of the thumb and finger. For the first week, an average of about two hundred were killed each morning—the required time to go over the whole being about an hour and a half. By the end of the second week the number had diminished to about sixty daily. Through the third week about forty or fifty were caught. By the end of the fourth week they had nearly disappeared, only five being found at the last examination. The work was then discontinued. The whole time consumed was twenty-seven hours, costing four dollars and a half. The result was that the whole orchard was loaded with showy and delicious plums. Visitors far and near said they never witnessed so magnificent a sight. Never was a more valuable crop and so delicious a luxury purchased at a cheaper rate.

The whole number of curculios destroyed was over sixteen hundred, each of which, if they had been allowed to escape, would have punctured a large number of specimens.

The following winter, (1866-7,) although not accompanied with such intense cold as some others, killed all the fruit-buds of the plum above the snow-line, an occurrence never before known here. The curculios therefore missed the usual opportunity for propagating their race, and last year, (1868,) there were only about one third as many as two years before, but still enough to destroy the plums, as was proved by the failure on such trees as were not attended to. I was obliged, the past season, to commit the whole charge of destroying the insects to a raw hand, who received only verbal directions, and no showing. Yet, to prove how easy and simple this mode is, it is only necessary to state that this man was entirely successful, and that most of the seventy trees were afterwards seen bending under golden, crimson, and purple crops of the finest plums seen in this part of the country. The attack on the curculios was begun quite early, before they had appeared in full numbers, and as a consequence more were found after a day or two than at first. The experiment of using spikes to strike on was first fully tried, and its superiority was shown by the more expeditious work, and by the complete clearing of the trees, effected by the sharper jar. The record of numbers, after the re-

* In answer to the question, "Shall the nail be driven into the upper part of the trunk near the branches, or in the middle, or lower down?" it may be stated that convenience will dictate, the best place being where a sharp blow can be most readily or effectively given. My own trees are trained somewhat in the pyramidal or elliptical form, branching out within a foot of the ground, where the stem is four or five inches in diameter, and most of the crop may be picked without a ladder. In these trees I insert the spike a foot or two high, or near the base of the lower branches. A standard tree, with the base trunk three or four feet high, might have the spike inserted near the lower part of the head, or, if quite large, one might be placed in each principal limb.

gular work commenced, was as follows : First morning, 74 ; second morning, 93 ; third morning, 66 ; fourth morning, 20 ; fifth, 9, etc. By comparing this record with the one of 1866, it will be seen that the numbers were reduced more rapidly, under the improved mode of jarring down. Only one half the time was required each morning.

The failures which are reported in the trial of this mode doubtless result from its imperfect application, or from occasional intermissions for two or three days. So long as new insects are coming out every day, it is quite essential that they be killed as fast as they appear. 'Two or three days' puncturing from an augmenting horde might sweep the whole crop.

There may be localities where, from a porous soil and vast numbers, it may be difficult to extirpate these destroyers without passing over twice a day, or both morning and evening ; and perhaps connecting the work with the daily removal of the dropping fruit, either by sweeping up or by swine. Let the business be well attended to, and no one need fear a want of success ; while an imperfect, occasional trial, will be sure to end in failure, disappointment, and a denunciation of those who recommend "so useless a plan."

American Cottage Life.

BY THE EDITOR.

A MERICAN cottage life has a charm and beauty which have never been adequately portrayed.

Writers of fiction and of poetry have indeed thrown the help of their chaste imaginations into their delineations of rural life and labor, and even the artist and painter have, with their sketches and paintings, brought out into living relief, the beauties of many a home scene.

Yet the picture is not complete. Very few there are who can picture the delight of cottage life, from the glowing anticipations formed at the commencement of the building of the new house, down through all the out-door and in-door life of the occupants, with their rural pleasures, home pastimes, the flowers, and fruits, and lovely views, and delicious rides, and lawn sports they enjoy, to a good old age, when the proud possessor of a home, wrought out by his own hands, sits in his own easy-chair, and views the scene with sweet content.

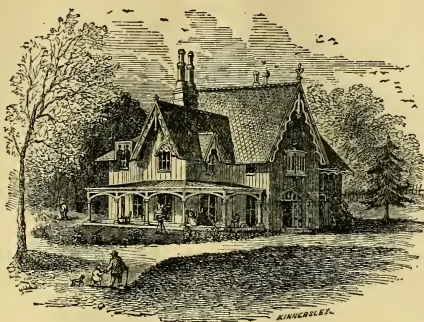
The theme is a pleasant one ; as we ride along a village street, and catch sight of a pretty cottage, surrounded with evergreens, and trees with pendent limbs, or a lovely lawn decked with flowers, flower-beds, ornamented trellises and frames, it is a sight so thoroughly delicious that it is not strange we have to stop and look long at the cheerful panorama.

Next to a perfect tree, which stretches heavenward, with all its wealth of foliage and graceful branches, and seems to our mind the most beautiful gift of nature the Creator ever made, we think that a pretty cottage is the most beautiful object in the landscape.

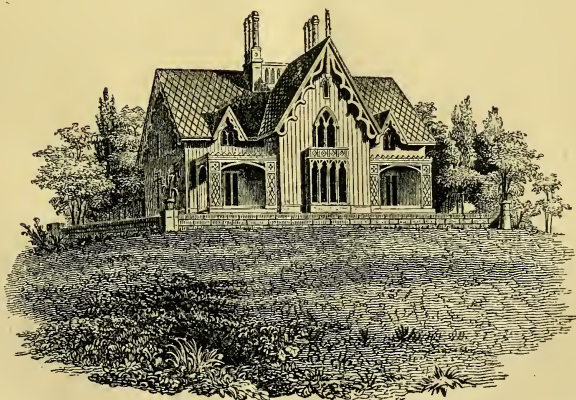
A homely building invariably affects an observer with disgust and dread. Even the old-fashioned, gambrel-roofed houses, which suit so well those who are fond of the antique and curious, seem so old-fashioned and distasteful that we can barely say aught in their favor. But a house, be it large or small, with neatly ornamented roofs and windows, well painted in bright cheery colors, and of a convenient architectural design, is a little world of itself, fit almost to be worshiped for the beneficent influence it insensibly bestows as a stimulator of good taste. Travelers, as they whirl by on the iron railroad, catch a glimpse of a neat, snug little cottage, nestling at the foot of the hill, with flowers and fruits in abundance, before and behind, and a well-kept garden by the side, and they look long at it, till they are passed beyond its sight.

Such little incidents as these are tending gradually to the dissemination of a correct architectural taste in all parts of the rural districts, and creating a better disposition toward the expenditure of a little time, labor, and money, on home ornamentation.

Our American villages are as much unlike the villages of any other part of the world



Design No. 1.



Design No. 2.

COTTAGES OF THE RURAL GOTHIC STYLE.

as can possibly be imagined. A stranger from a foreign land could not pass through one of our village streets, without insensibly feeling that there were here the homes of people of taste, progressive spirit, and education. And when we consider that village life and ornaments are as yet far from being fully developed, what may we not expect, when some skillful hand, like that which Downing once held, shall teach the inmates of these beautiful cottages, and the occupants of these lovely villages, how to make their homes more and more beautiful, and realize in the highest degree the perfect pleasures of a healthful rural life?

Many have been born and brought up in a village, who have yet enjoyed city life for many years. Yet there has never been a day in the history of their eventful careers, but they have looked back with longing to the dear old village home, "*father's cottage*," and thought of the little garden they used to spade up and weed, of the currant bushes by the side of the fence, and how mother used to send them out to pick the ripe fruit; or the nice little flower-beds, which their sisters used to make bloom so magnificently with tulips, and pansies, and poppies, and fuchsias, and peonies; or the cherry-trees and apple-trees, which they have climbed many a day. All these reminiscences of cottage life touch a chord in the breast of many who are absent from them, and lead us to believe that the real beauty and charm of rural life never have been, and never will be, fully described.

The HORTICULTURIST, in presenting constantly for so many years back, choice designs for rural homes, and plans of cottages, with many a happy hint as to home ornament, has wielded a far greater influence than is generally supposed, and may the future of American architecture still find it as useful as in the past!

We know not who made the remark, but it is well said, "A pleasant home is a blessed ideal inheritance in all after-life."

The designs presented in this number are of the Gothic style, which, in our opinion, always gives a picturesque and sprightly effect, no matter where the house may be located. Both are excellent models to copy after, and still allow numberless variations and details.

Humbugs in Horticulture.

(BY ANDREW S. FULLER.)

Read before the Fruit-Growers' Club, New-York.

I DO not believe that there are any more humbugs in horticulture than in any other branch of trade. I will not, however, attempt to deny that they do exist, and their sting is quite often very severe; neither will we try to shield those who practice swindling in plants, any more than we would in other articles that are bought and sold. One reason why we hear so much about cheating in plants is because the people who purchase them are usually very sensitive, and their feelings are easily injured. If a man wants a few roses, he is far more particular about their selection than he would be in buying cloth for a coat. Consequently, he watches the unfolding of every leaf, and when the first bud begins to open, he looks at the label on the bush, reads it over and over again, refers to the printed description in the catalogue, and perhaps reads that a half-dozen times while he is waiting for the first bloom. Now, if the rose was purchased for a deep crimson variety, and it turns out to be a pale pink, his pleasure is all gone, no matter how beautiful the flower may be; but, as it is not what he expected it to be, it is worthless to him, and the man from whom he purchased it is certainly a swindler. If he had not thought so much of this plant, nor watched it with any more eagerness than he would the wearing out of his coat, its name and color would have been forgotten long before it came into bloom.

It is certainly very perplexing to wait several years for a tree to come into bearing, and then learn that it is not the thing that was wanted. One who has waited five years

for a worthless apple or pear-tree to produce fruit has not only lost the money paid for it, but so many years of time which can not be replaced. It is often the case, however, that the purchaser of plants is more at fault than the seller, because he neglects to give them proper care; but the nurseryman usually gets all the blame, no matter how well his part was performed. Another cause of disappointment arises from ignorance on the part of those who purchase plants, in not knowing what kind to purchase to suit certain soils and localities. Not long since I read an article in a Western paper, the author of which gave a long list of fruits which he said that he had tried, and they all failed; and he called the men who had recommended these fruits swindlers, and further, that Eastern men who said that they were good knew that they lied. This man thought he was exposing humbugs when he denounced such raspberries as the Brinckle's Orange, Hudson River Antwerp, and a score of other excellent varieties.

Because a variety fails in Illinois is no reason for calling it a humbug, or the men who recommended it swindlers or liars. New-York City has been supplied with Antwerp raspberries for the last twenty-five years, and had it not been for this variety, it is doubtful if red raspberries would have been seen in our markets; yet this variety will not do well everywhere, but it should not be classed with humbugs, and no honest and intelligent man will make such a statement. Men should remember that the little town or neighborhood in which they live is not the whole country; and there are other localities, soils, and people besides those with which they are acquainted. From our experience as a horticulturist, we believe that the nurserymen get swindled far more often than any one else; but there are careless, ignorant, and dishonest men in our ranks, and I do not know of any profession where such men can not be found.

It is quite probable that ignorance is the cause of more swindling than dishonesty; for it is not every man who grows plants for sale that is well informed or really understands his business. If one of these men hears that a certain grape is growing in some gentleman's garden, and that it is superb and never fails, he takes it for granted that it will do so everywhere, and probably believes that it is a new variety; consequently it is propagated and sold as such, because the propagator does not know that it is an old variety, or one that will not succeed except in a protected situation. The grape may be a humbug for general culture, although excellent for particular localities. The Adirondack, Iona, Israella, and many other really excellent varieties are of this class. It is only the man who claims that such varieties will do well everywhere that tries to swindle the public.

It is true that men will stoop very low to make money, even in the nursery business; and, accordingly, one will advertise as having better plants than any body else, or will denounce every thing that they are unable to grow with profit. Another class of men will annually offer a long list of new fruits and flowers; the next year they are laid aside, and another list taken up, and this system will be continued indefinitely. And success often attends these men, because a new set of readers come into the ranks and are ready to spend a little money, if for no other purpose, in obtaining wisdom from experience.

We might point out and name hundreds of humbugs in horticulture; but for every hundred on the part of the horticulturists we can name a thousand on the part of the public. Upon the whole, we think no man who keeps his eyes open when he travels through the country can fail to see the great good, and the immeasurable blessings, that our nurserymen have bestowed upon the people. Every orchard and garden is a monument of his skill, and usually of his honest toil. Let those who cry humbugs look at the condition of our country in regard to fruits, ornamental trees, and plants to-day, and then contrast it with that of a quarter of a century ago, and then answer the question, What would we have done without the aid of these very horticulturists, that are so often denounced as humbugs and swindlers?

Pencil-Marks.

What Cherry shall we grow in the West?

THIS is a question now being agitated among Western fruit-men. And I confess it is a hard question to settle. Eight or ten years ago many of the finer sorts were planted—such as Elton, Gov. Wood, Yellow Spanish, Black Tartarian, etc.; but experience has shown that, in our variable climate, most of these are worthless. Public opinion is fast settling upon the Early Richmond (or Early May) and the English Morello, as the most reliable; while many continue to plant the Black Morello. That these cherries are far hardier than any others known here, can not be denied; and poor as they are, compared with many of the others, all admit that they are better than none. And were it not for their one great fault—that of suckering so badly—their culture would be very generally adopted to the exclusion of all others, except for amateur purposes. The black or common Morello suckers worse than the others, perhaps, yet is extremely hardy and prolific; and it is now recommended to top-work the others on it, in order to induce greater fruitfulness. But shall we plant this stock, and instead of a cherry orchard, grow a forest of suckers? Thousands of such trees are being yearly planted in this way; and the plan of thus working on the Morello has even received the sanction of the Illinois Horticultural Society. It is proper to say, however, that some of its intelligent members and propagators denounce the mode as barbarous in the extreme, and not to be entertained for a moment. One of these, Rev. J. V. Hopper, an officer of the Bunker Hill Society, claims that the Early Richmond, as well as the May Duke, Belle Magnifique, and others, does well on the Mazzard stock, if properly worked. These he grafts just at the collar, as in apple grafting, and plants with the stock just below the surface of the ground. This mode, he contends, renders the tree hardy. Morello Seedlings have been recommended by some as preferable to suckers, but these are presumed to be little if any better, as the tendency to sucker is inherent in the variety. If any of our Eastern friends, who are more cherry-wise than we are, can help us out of the difficulty, they certainly will confer a favor upon a large and anxious class of fruit-growers.

Time to Prune Orchards.

Our Society—no matter where located—had the question of *Pruning* up for discussion at its last meeting. It is singular that there is so little unanimity of opinion on the subject. One prefers to prune in the spring, March or April; another prefers late June or July; another prunes only in winter, and so on; and each has a reason of his own not always satisfactory to himself. Now a new beginner would be totally at a loss how to proceed, were he to consult only his neighbors; and I am not certain that he would be able to get out of the difficulty entirely by consulting the books. The little pruning that I have done has generally been done in early spring, not because I believed it the best time, but because I had more leisure for it. And I am inclined to think that is the reason many others prefer that time. Now there must be a BEST time; and it does seem that orchardists ought ere this to have been able to agree better as to what that time is. I confess to no opinion on the subject, other than this—that the spring is not the best time. And if any body knows when it is, and knows *why* it is so, I should be pleased to hear from him.

The Horticulturist for 1869.

I have now received the first three numbers of THE HORTICULTURIST for 1869. To say that I like them—their broad, ample pages, clear plain type, beautiful vignettes and other illustrations, style of heading and arrangement, and, above all, the character

of their contents, is but to feebly express my admiration. And I do not see how any one can be else than entirely satisfied. Practical and to the point as most of the articles are, no one can peruse them without being entertained and instructed. These commendations are given in no spirit of flattery; nor yet with intent to contrast the publication with what it has been under former publishers—for to say the truth, I always liked THE HORTICULTURIST. I set out with the view of making a running commentary on the numbers before me, but can only notice a few with which I have been particularly pleased. "Practical Hints to Fruit-Growers" are just the hints needed to be read and pondered all over the country. There is no doubt but the prices obtained for most fruits in the city markets could be materially enhanced, by greater care on the part of the grower in handling them. The instructions given in the March number on "Tree Planting," are in the main admirable, but I would dissent in one or two particulars. First, I would always plant two or three inches deeper than when in the nursery, so that when the earth becomes fully settled, it will be about as before. Second, I would never dig holes, especially in clay soils, deeper than the general surface of the ground has been cultivated. Third, I would prefer a tree *one year* old from the bud or graft, over all other sizes—as being so much more easily handled and less liable to be checked in its growth by the operation. Your injunction to cultivate deeply cannot be too closely heeded. Deep culture is the *panacea* for many—very many—of the ills of tree-planting. Shallow plowing—thus leaving trees exposed to the droughts of summer and the standing water of fall and winter—is the prolific cause of failures in fruit-growing. "Plant Trees." A timely article and well put. Ah! truly does that man not live in vain who plants trees. "Asparagus." All lovers of good eating ought to thank your New-Jersey correspondent for that article, and if it shall induce market gardeners to increase their plantations, and farmers and owners of village lots to provide themselves a bed of this fine vegetable, it will have served a good purpose. "Hogs in the Orchard." Yes, we must ask the aid of our two and four-footed friends in our efforts to exterminate the insect tribes. Out West here, "hog and hominy" have been associated from time immemorial; who knows but in the future hog and apple-dumplings may form a partnership? As aids in the warfare against the Codling Moth, and perhaps the Curculio and Canker Worm, hogs and barn-yard fowls are likely to prove most effectual. "Labor is Honor." A poem as is a poem, and with the true ring about it. Pity you had not given the name of the author. "Beautify Your Homes"—in February number. Oh! that the thousands of thoughtless sluggards over all parts of the land, whose homes (?) attest their character, could be induced to read and appreciate that article. Did it ever occur to you and your readers that one of the potent causes for the desertion of the farm and the old homestead, by so many of the young men of our country, is to be found in the fact that those homes are not rendered as attractive as they should be? "Peach Trees—Height of Branches." Were it not that I know Dr. Hull, of Alton, Ill., is a veteran fruit-grower and a practical man, I should dissent *in toto* from his premises and conclusions in regard to the heading of the peach-tree. As it is, I do not accept his article on page 43 as conclusive; nor do I conceive his views will be generally adopted, even "out West." I have been a pretty close observer of the habits and requirements of the peach, and I had come to entirely different conclusions. Hope the Doctor will take occasion to give his reasons and mode of training at greater length. "Monthlies *vs.* Weeklies"—editorial—hits the nail right square on the head. He or she who does not prefer a neat handsome-paged magazine, in an ornamented colored cover, to a broad weekly—even if it should not contain as much reading matter—is—well, a queer sort of a person, that's all. The one can be preserved, and at the end of the volume bound into a book and placed on the library shelf to take rank with the best of them. The other is ephemeral—can scarcely be kept whole and intact a single month; and however valuable its contents may be, can not easily be preserved for future reference.

BANKS OF THE MISSISSIPPI, April, 1869.

OCCIDENTALIS.



Hardy and Half-Hardy.

BY R. M. COPELAND, BOSTON, MASS.

NO question is more interesting to the horticultural world, and to amateurs truly in earnest to produce all the beauty and variety they can from their grounds and green-houses, than what plants are hardy and what tender, when permitted to take their chances in the open air. Neglecting for the present the fruits and vegetables, the question is divided by the relations of heat, frost, and wind to vegetable perfection. Commonly, when we speak of a plant as *hardy*, we mean that it will endure the winter and spring, and this class of plants is most important to the improver of country places, because if he would make enduring, good effects, he must use the trees and shrubs which can withstand all ordinary vicissitudes; but there are other plants which may be used decoratively which are too tender to live through frost, and also shrink before the heat of the sun. They are what we call sub-tropicals, which, like the orange, lemon, oleander, caladium, musa, etc., we have believed could only be seen in this country when protected by glass.

The practice and experience of European, and chiefly French, gardeners has shown, to the surprise of all, that these green-house and conservatory plants, not only are very beautiful when grouped out of doors and combined with native and hardy shrubbery, but that they will attain in the open air during the summer a perfection far surpassing the best which can be had under glass. It is very common now to see musas in the gardens of Europe with leaves many feet long and in full luxuriance, which never gave leaves of half the size when sheltered. Not only do the leaves and stems increase in size and vigor, but in color; and the family of caladiums, containing a great number of species, when in the open ground give a depth of color to their variegated leaves far surpassing any thing which we ought to have expected out of the tropics. In this direction, the use of sub-tropical plants, we are progressing but very slowly in America, from the want of large houses where a stock of costly plants can be wintered and propagated.

For their protection, many so-called hot-house plants need but very little shelter, an empty cellar or cold grapery being sufficient, while some must have as warm a winter as a summer-house.

The wonderful beauty of the plants themselves, and the variety they introduce into ornamental grounds, should stimulate every one to do his part in trying different species, to ascertain which will give the best effect with the least cost and uncertainty.

We may range very widely in our selection, from the pampas grass, the bamboos, the cannas, and caladium to the lofty musa ensate, with leaves ten feet long. But in cultivating these sub-tropical plants we are met with the question of hardihood, not in reference to winter, but summer.

Some of the most beautiful are natives of swamps and woods, and can not endure the heat and glare of the sun, and the sweep of high winds. This is illustrated by a family familiar to us all, the pelargoniums; the old horse-shoe, Tom Thumb, and other pelargoniums have made our gardens gay for generations, and have associations which date far back in the horticultural history of the world. Latterly skillful men have produced varieties of pelargoniums with variegated leaves, some green with white or silver tops, others with bands or zones of yellow, bronze, and silver; the latter are called zonals, and many of them are extremely beautiful. Thus, Mrs. Pollock, the mother of most of the golden zonals, is one of the most ornamental plants, and when planted in masses gives a wonderful effect. Mrs. Pollock, however, is surpassed by some of her children. Whoever sees these beautiful leaves instantly wants one or more plants in his collection, but the new favorite when exposed to the intense heat of summer gradually fades out, and in time is hardly more distinct than the old horse-shoe, which was the first variety with variegated leaves. In May and June Mrs. Pollock is gay, but July and August reduces her to insignificance, and only with the cool air of September and October does she revert to her former beauty. This variety is the most lasting in color of any of the zonals, and is therefore entitled to a certain reputation for hardiness; but the other golden zonals are tender. When we turn to the silver zonals we find less caprice, as there is less beauty; some of them, like "Mountain of snow," carry pure whiteness through all heats; but most are of little value for effect in summer. Here, then, we see how the sun separates plants into hardy and tender.

The wind is not less to be dreaded than the sun in many cases; while the bamboo, the pampas grass, the cannas, can resist a gale unhurt, the great leaves of the musa, the acanthus latifolia, and the solanum robustum are liable to be torn into ribbons by the wind. As these plants, when hardy or when protected, are a most decided addition to the beauty of our grounds, every effort should be made by amateurs and professional gardeners to ascertain which are capable of out-door culture and deserve to be called *hardy*. And even when the list is made and has been well tested, doubtless many will be added yearly from the ranks of the rejected, which will stand in one latitude or location when destroyed by every other. I had intended when I began this article to discuss the hardy and half-hardy trees, but must leave them for another occasion.

The Free, Natural Style of Gardening.

Chinese Gardening.

From the French, by O. D. P.

KENT, a famous "landscape gardener" of England, was the first who attempted with success the free and natural style of gardening, which is being introduced all over Europe, under the name of the English garden. The Chinese were undoubtedly the original inventors of this style. A celebrated painter, who traveled in China, has given a curious account which we take from his work, which is rare:

"The gardens which I have seen in China were very small. Their construction, however, and what I could collect from one of their best painters, has given me, if I mistake not, a knowledge of the ideas which these people entertain on this subject.

"Nature is their model, and they aim to imitate her in all her beautiful irregularities. They first examine the form of the ground and its capabilities, whether it be level or hilly, or mountainous, whether extended or contracted, dry or marshy, whether abounding in springs and rivers, or lacking water privileges. Great attention is paid to these different circumstances, and they make such arrangements as comport best with the capabilities of the site, the nature of the ground, what is least exacting of expense, what hides best the faults, and exhibits in the best light all the advantages.

"As the Chinese have not a fondness for promenading, we rarely find among them the

avenues or the spacious alleys of the Europeans. All the ground is distributed in a variety of scenes, and winding passages open in the middle of groves make you to arrive at different points of view, each of which is designated by a seat, by an edifice, or by some other object.

"The perfection of their gardens consists in the number and beauty and diversity of these scenes. The gardeners of China, like European painters, assemble from nature the most pleasant objects, and endeavor to combine them in such a manner that not only they may appear separately with the greatest splendor, but even by their union they may form a whole pleasant and striking.

"The Chinese distinguish three different species of scenes, to which they give the names of smiling or cheerful, of horrible, and of enchanted. This last denomination responds to what we call the romantic scene, and our Chinese have resort to various artifices to make it afford a surprise. At one time they contrive to have a rapid torrent pass under ground, which by its turbulent noise strikes the ear, without our being able to comprehend whence it comes. At another time they dispose the rocks, the buildings, and any other objects entering into the composition in such a manner that the wind passing through interstices and concavities, purposely constructed to that end, produces strange and unearthly sounds. They plant in these scenes the trees, plants, and flowers of the most extraordinary forms. They contrive to produce in them artificial and complicated echoes, and stock them with singular animals and birds.

"The scenes of horror present hanging rocks, darkening caverns, and impetuous cataracts, with trees deformed, that seem to have been broken by violent tempests. Here we see them overthrown, obstructing the course of torrents, or having been borne away by the fury of the waters. There they seem rent by lightning, or struck by a thunderbolt. Some of the edifices are in ruins, others partly consumed by fire. Miserable cabins scattered here and there, upon the mountains, would indicate at the same time the existence and the poverty of the inhabitants. To these scenes generally succeed those of a smiling nature. The Chinese artists are aware of what force the soul is affected by contrasts, and they do not fail to contrive sudden transitions, striking oppositions of forms, colors, shadows, and they also make you pass from limited views to extended perspectives, from objects of horror to scenes of delight, and from lakes and rivers to hills, to mountains, to woods. To colors sad and sombre they oppose those that are brilliant, and from simple forms to the complicated, distributing, by a judicious arrangement, various masses of lights and shadows in such a manner that the composition appears distinct in its parts, and striking in its whole.

"In the large gardens they have managed to produce different scenes for the morning, midday, and evening, and they erect buildings, at points where the view is accessible, proper for the diversions of each part of the day.

"As the climate of China is excessively hot, the inhabitants employ much water in their gardens. In the spacious grounds, extensive lakes, rivers, and canals are introduced. The shores are made gravelly, wooded, verdant, or ornamented with shrubs and flowers in different parts, to vary the scenery. In some parts they are covered with abrupt rocks, in which caverns are worn, where the water is thrown with violence and noise. Sometimes you see rich pastures filled with domestic animals, or fields of rice bordering the lakes, leaving between them passages for boats; sometimes the inlets are covered with the foliage of overarching groves, constructing bowers under which vessels may pass. You are thus ordinarily conducted to some interesting object, to an elegant building, placed on the summit of a mount, whose sides are cut in terraces, or to a tower in the midst of the lake, to a waterfall, to a grotto, divided into apartments, to an artificial rock, or to some other similar composition.

"The rivers seldom follow a straight line; they meander in tortuous windings, and are interrupted by divers irregularities, now narrow, rapid, and foaming, now slow, sluggish, and profound. Reeds and aquatic plants and flowers, among which is the *lien-hoa*, are seen on both rivers and lakes. The *lien-hoa* is a distinguished plant, and much esteemed by the Chinese. They construct mills and other hydraulic machinery, whose movement serves to animate the scenery. They also keep a great many boats, of different forms and sizes. These lakes are strewn with islets, some barren and rocky, and

others enriched by all that nature and art can produce of the most perfect. They also introduce artificial rocks, and they surpass all other nations in this kind of composition. These works form with them a distinct profession. They are seen at Canton constantly engaged in this employment, and probably in other cities. The stone employed for this purpose comes from the southern coast of the empire. It is bluish and worn by the action of the waves into irregular forms. They are exceedingly nice in their choice of these stones. I have seen a piece no larger than the fist, with a pretty form and lively color, sold for more than I will mention. These chosen pieces are used for apartment landscapes. The rougher answer for garden work, and, being joined by a species of bluish cement, make rocks of considerable size. I have seen some extremely beautiful, showing in the artist an elegance of taste not at all common. When these rocks are large, they excavate in them caverns and grottos, with openings through which can be viewed the distance, with its trees, shrubbery, rushes, and mosses, and upon their summits they place little temples, and other structures, to which they ascend by rough and irregular steps cut in the rock.

"When they find sufficient water, and the ground is otherwise suitable, the Chinese never fail to form cascades in their gardens. They avoid every sort of regularity, imitating the operations of nature, in those mountainous regions. The waters jet from caverns and from sinuosities in the rocks. Here we see a grand and impetuous cataract. There it is a multitude of little jets and falls. Sometimes the view of these cascades is intercepted by the foliage of trees, appearing by intervals, the waters, tossed and regained, falling down the mountains. Again, the waters leap from rock to rock in turbulent rapids, crossed now and again by rustic bridges constructed of wood.

"In their wood plantations the Chinese always vary the forms and colors of their trees, combining the spreading and round-headed with those that rise in pyramids, and the dark green with the gay light green. They intermingle flowering trees, among which are many that flower the greatest part of the year. Among their favorite trees is a species of willow. Its habitat is the shores of lakes and rivers, their branches pendulous in the water.

"Nothing is more varied than their means of producing surprises. They conduct you through gloomy caverns and dark alleys, when suddenly, at your egress, you are struck by the view of a delightful landscape, enriched with all that nature can furnish the most beautiful. Again, you are led through avenues and alleys that are diminishing and growing rough by degrees. At length the passage is entirely interrupted by thickets, stones, and rushes, till it becomes impracticable, when on a sudden you emerge upon a scene where is opened to your eyes a most charming perspective, which pleases so much the more as it was the less expected.

"Although the Chinese are not very much skilled in optics, experience has taught them, however, that the apparent size of objects diminishes, and the colors grow feeble, in proportion as they are removed from the eye of the spectator. These observations have given room to an artifice which they sometimes put in practice. They form views in perspective by the use of buildings, vessels, and other objects, diminishing in size as the distance from the point of view increases. To render the illusion still more striking, they put the trees of duller tints and lesser height in the part the most remote, and the taller trees, with more brilliant colors, in the foreground. Thus that which is in itself more limited, and of less considerable dimensions, becomes in appearance of greater size and of more extent.

"Ordinarily they avoid straight lines, but they do not always reject them. The roads are constantly cut in straight lines, if, at least, some irregularity of the ground or other obstacle does not furnish a pretext for acting otherwise. They sometimes make avenues when they have some interesting object to put in view. But when the ground is entirely level, and no particular object to be obtained, it appears to them absurd to make a serpentine route, for say they, it is either art or the habit of travel that has made it, and in either case it is unnatural to suppose that the people would go in a curving line when they could have equally well a straight one.

"What is called in England a *clump*, that is, a group or cluster of trees, is not unknown to the Chinese, but they do not practice the grouping of trees as frequently as we do.

They never occupy the whole ground with groups. Their horticulturists consider a garden as we painters consider a picture ; the first group their trees, as the last do their figures, both having their principal masses secondary."

NEW-BRIGHTON, PA., 1869.

Roadside Improvements.

BY MRS. E. T. LYON.

Read before the Fruit-Growers' Club, New-York.

MRS. STOWE has been giving to those who would enlighten the world by scintillations of wit and wisdom, advice like this : "First. Be sure you have something to say worth saying." About this theme, "Roadside Improvements," the trouble seems to be what can be left unsaid and yet accomplish the object for which we labor.

We may believe with Ruskin that every thing beautiful reveals the Infinite, adopt the theory of the old philosophers, or have no belief at all ; yet there seems in all, old or young, an innate love of the beautiful. Believers in total depravity may find in this trait of humanity a possible chance of hope for the progressive development of the race. There are many hindrances to roadside improvements, a few of which we will here consider. Could we have had the laying out of country roads, we would have avoided the highest hill in the town by going a little further around. We, too, would have shunned that dreadful slough which, in wet weather, is worse than any Bunyan ever dreamed of ; but that particular route was a little cheaper than any other, and so generations have come and gone over the same, and will continue to do so while time lasts, providing the roadway, poor as it is, does not all get stolen. We will just here allude to the practice (although it seems past belief) that prevails in some neighborhoods of encroaching upon the roadway in rebuilding fences. We have seen within the radius of four miles a number of such instances ; in one case, an eighth of a mile moved two or three feet. "What is every body's business is nobody's," and so the stealing goes on.

Another hindrance to the beautifying of the roadside in our New-England towns lies in the fact that for successive years they have been the dumping-grounds of all the refuse stone and other materials which the farmer wants to be rid of with the least possible trouble to himself. Why tell us to imitate the much admired foreigner, who with his boot makes the hole into which he thrusts the nut that shall spring into life and beauty to bless coming generations ? A sorry time would our Yankee have trying to follow in the footsteps of his illustrious predecessor.

Nothing we may ever do in the way of planting shade trees will avail any thing until there shall be less laxity of public opinion in regard to stray cattle and dilapidated horses that are turned out to find a scanty living by the roadside. There are laws enough, were they enforced, to protect us ; but there seems a strange aversion among the people to do any thing which their careless neighbors might dislike, forgetting entirely that those who are disposed to do what is right are entitled to their share of consideration.

Let us next look at the way in which our country roads are kept in repair. The owner of land has so many dollars' tax to work out ; so much is allowed for labor of a man, so much for a boy, and so much for a team. If the farmer's work is hurrying, the help that is of the least account at home is selected for the occasion. They work under the direction of a man who seems to be selected upon the principle of rotation in office, rather than any special fitness for the position assigned him. Were the same man to continue in office year after year, he might get tired of covering the same old stones with a little earth, to be washed away with the first rain, or he might feel some compunctions of conscience at continuously running a plow through the green sward in front of your door. Well do we remember the indignation which filled all our being to see the beautiful green, where not a stray twig or leaf was allowed to linger, rudely desecrated by uncivilized attempts at road-mending. Nothing but a careful keeping of the road in repair by one's self has prevented a repetition of the outrage.

The soil is taken from where it comes handy; the ditch is left undrained year after year, and the boulder still stands where it will just graze the hub if the driver fails to keep a sharp look out ahead. We are convinced that the accident which befell the "deacon's one-horse shay" would never have happened had proper precautions been taken to remove all causes of concussion, and instead of lasting a paltry hundred years it might still be in good condition, had the roads been what they should. Let us here introduce an extract from a letter received not long since which has a bearing on this subject:

"The remembrances of a late visit to the home of my childhood are not all of a happy character. You remember the magnificent elm not far from the station, a tree which if left to itself would almost have been a joy forever. Planted by ancestors not his own, what right had the utilitarian to cut it down? I can never pass the spot left vacant without feeling that 'twould have been better had the old man passed away a little sooner, and the noble tree been spared. Then, too, the beautifully shaded walk where we used to swing by the pendent branches of the stately buttonwoods. To be sure, the mysterious blast struck the trees, and they died by slow decay; but that was no justification for the vandals who spaded up the soft green turf to mend the highway. But the puddles are just where they used to be when it rained, the stones still in the path worn smooth by feet of children from school; not so large, to be sure, as they seemed to us forty years ago."

With this view of the hinderances which beset all attempts in roadside improvements, what practical avenues of reform offer themselves? If we fly to the rigor of the law for the enforcement of our rights or protection from our wrongs, our attention is directed to the accumulated dead statutes on our books, which are laughed to scorn by that portion of our rural population in no way susceptible to the necessities we advocate; and it may be that it is impracticable to regulate so extended a territory by any statute which shall carry with it sufficient public sentiment to insure its vitality. But if we may not compel a man to plant shade trees for posterity, we may at least protect those already planted from his vandalism. If we may not compel him to preserve an even grade to the common way of travel, and secure an ample border of green sward by the side of it, we may surely compel him to remove from the roadside those infectious and unsightly plants, like the thistle and carrot, which are positive evils, endangering the fruitfulness of all adjacent meadows, and as certainly harmful to the interests of the neighborhood as any other conceded nuisances. If one had at common law the privilege of ancient lights, and was protected from infringement by others, why should he not acquire some rights or property in the grateful and refreshing shade of a widely branching elm, which should be free from the trespass of the woodman's ax? If we may not enforce active exertions in behalf of roadside improvements, may we not at least prevent obvious evils by appropriate legislation, backed up by the hearty goodwill of the community?

And this suggests the necessity and duty of personal effort and example in accomplishing an improvement of our roadsides. Many people are more fearful of being outdone than they are careful to do all that they concede to be proper. Hence the example of one intelligent citizen in improving and adorning the roadside is frequently copied by some jealous neighbor, who is spurred by emulation to a task which his propriety was not powerful enough to urge him to.

To these remedies might be added the formation of associations to urge the importance of such improvements upon those who are not sufficiently impressed with their real advantages. Among the ends to be obtained by this concert of action, the planting of ample shade trees is important. These should be set at proper distances, and if a well-drained walk is not in all cases practicable, the commonest regard for the comfort of foot-travelers would suggest the removal of prominent obstructions from the side of the road, and the preservation so far as possible of some well-defined path.

Miles away, the traveler who has admired your beautiful surroundings, your shaded walks, your well-regulated roads, will be induced to imitate the same, and future generations may rise up to call you blessed.



Hints for the Month.

ORCHARD AND NURSERY.

WE shall find work in the orchard and the nursery, in hunting out and destroying the tent and other caterpillars, fighting the curculio, and getting rid of the scale insect, besides trapping a host of the various moths which fly in the evening and deposit their eggs preparatory to the production of destructive larvæ. There is no patent, or other remedy, or insect destroyer, that can be relied on as a substitute for vigilance and hand destruction of all these pests. The best preventive of their multiplication is by turning into the orchard hogs or sheep to eat all the fallen fruit as it falls, or hand-pick and destroy it. This disposes of the insects in embryo, that would be troublesome next year. Hens and chickens allowed the range of the orchard and nursery pick up and destroy large quantities of moths, bugs, larvæ, etc. The curculio must be fought by jarring the trees, and catching them in sheets, and then burn or otherwise destroy them. A device for catching them when jarred from the trees, used by some, is made similar to a huge umbrella, spread bottom up, set on wheels, with an opening one side to the centre, for the body of the tree; this is run against the tree, and the jar dislodges the little "Turk," and the spread umbrella catches and holds him convenient to be emptied into a pail of water. With such a convenience the trees of a considerable orchard can be gone over with in a little while; and a daily use of something of this kind will in a few days rid it of this most troublesome pest for the season.

As a general thing, the birds which frequent our orchards are our friends, helping to destroy

insect foes, and as such should be protected; mischievous boys and indiscriminate gunners should not be allowed to molest or war upon them.

The grafts set this spring will need to be examined, to see that the wax has not started so as to admit wet, etc.; and replace any needed. Allow no suckers or shoots to grow from the stock, as they steal from, and rob the graft.

A good way of multiplying evergreen and deciduous trees and shrubs, and getting strong plants, is to layer the younger growth, which may be done by pegging them down and covering with fresh earth during the month.

Young seedlings of nursery stock need shading, and especially evergreen and forest trees.

The seeds of some forest trees mature in spring, or early summer, and should be gathered and planted as soon as ripe. Observe how nature deposits the seed and provides for the continuance of its kind, and see if you can improve thereon in endeavoring to propagate forest and other trees.

Pinch in such shoots of the pear and peach trees as tend to grow too long, thus inducing the formation of more fruit-buds, and keeping the trees within reasonable bounds.

Clean culture, with a free use of the cultivator and hoe, tends to increase early maturity and free growth in the nursery. Small weeds extract the least fertility, and are the easiest destroyed.

Watch for the first signs of the "black knot," and cut off any infested limbs and burn them; this is the most effectual mode of eradicating it, which it will do if persistently followed.

If we would have our orchard feed us, we must feed our trees, and the food given should rather induce to growing fruit than wood. Ap-

plications of lime, old plastering, and mineral matter often produce best results. If not already done, it would be well to give a surface-dressing of some fertilizer, spreading it evenly over the surface, as far as the roots extend, to all bearing trees.

If we regard quality rather than quantity or numbers, we should thin out freely; for no tree can give us the greatest number of specimens and at the same time the highest quality.

It is often a subject of inquiry whether an orchard in bearing should be cultivated, and to what crop? or whether it should be kept in sod? An intelligent reply can best be made by one who is well posted as to the soil, its capacity, and other incidents, and best determined by an intimate acquaintance with all the circumstances. Our object in planting fruit trees, of course, is to produce fruit. That treatment will, therefore, be the most proper which maintains the trees in the most healthy fruiting condition, whether it be to cultivate to any crop, or lay it down to grass. Some soils will require one treatment, while with others an entirely different course will prove the best. Young orchards, previous to coming into bearing, should be cultivated to induce to a healthy vigorous growth, while the whole surface should be manured; the crops grown should be of the least exhaustive kind to the soil, if any are grown.

FRUIT GARDEN.

THE blackberry and raspberry canes will need be tied up, as they grow to the stakes or trellises prepared for them. Those plants set this spring should not be allowed to fruit; if they blossom, remove the blossoms as soon as they begin to fade. Unless it is desirable to multiply plants, cut or pinch out all except such as are desirable for fruiting next season. The strongest and best canes are the ones to save. Keep free of weeds, as the soil can not well perfect both a crop of fruit and weeds; and who ever knew a crop of weeds, when well started, abandon their advantage? If weeds grow, it is pretty good evidence there is too much land devoted to these fruits; better root out a portion and give better culture to what is left.

The currant, one of our most refreshing small fruits, and heretofore free from insect enemies and disease, and sure of yielding a good crop, for some years past, in some sections, has been attacked by the "currant worm," which strips the plants of foliage, destroying the fruit. Vigilance will save a portion of the crop, but only by close watch and a "free fight" can it be done. Heliothere in powder persistently used will destroy them; but care is needed in applying it not to inhale it, for fear of destroying the larger worm. The ground kept mulched, or frequently watered, and moist around the bushes, will tend to prolong the season of ripe currants. It frequently pays better to pick and sell the green currants,

when convenient to market, than to wait till ripe.

Gooseberries need clean culture and attention to anticipate the appearance of mildew; if signs of mildew appear, give a light sprinkling of sulphur. An open bush and free air are good preventives of mildew. Pinch out superfluous shoots to keep the plants open, and avoid the necessity of other pruning. Thinning the berries and giving liquid manure tends to increase the size of those left to mature.

Dwarf pears and other dwarfs planted out this spring should not be allowed to bear, if so disposed. Most of the pruning to keep them in shape should be anticipated by pinching out and shortening in, where a tendency is shown to undue growth. Whale-oil soap and tobacco soap in solution, and air-slacked lime in powder, are good destroyers of slugs and insects which infest the pear or other fruit trees. Thin the fruit on bearing trees, where more than a single specimen is attached to a spear, especially if of large variety; this not only gives better quality this season, but prevents the tree exhausting itself so as not to fruit the next season.

Bearing and young grape vines will need pinching in order to obviate the necessity of greater fall pruning, and better develop the fruit. "Pinch the laterals," is a term better understood by the horticulturist and amateur than by the general reader. A vine in spring sends out shoots which grow rapidly in length; after a while small side shoots or branches start from the axils of the leaves. These are what are termed *laterals*, and are allowed to make two or three leaves, when they should be pinched back to a single leaf. Often after being pinched off these laterals make a second or third growth, which should be treated the same as the first. The object is to direct the growth to the full development of the main cane. The pinching is all done with the thumb-nail and finger. At the base of the lateral is a bud which is to produce the growth of next year; if the lateral is pinched or torn out entire, this bud may start into growth or be destroyed, which is to be avoided. The rose-bugs will want looking after, or they will destroy the crop. A hand-dish with hot water in it is as good as any way of managing them; hold the dish under them, and give the vine a slight jar, and they will drop into it. Toads are very fond of them, and will destroy quantities if domesticated in the vicinity of the vine.

Clean the strawberry beds of weeds, etc., and give a mulching, if not already done, of clean cut straw, to keep the fruit from being soiled by contact with the ground. This mulch not only keeps the fruit from being soiled, but also tends to keep the ground moist, which is so essential for the development of nice fruit. Only careful pickers should be allowed in the strawberry bed or field. If the fruit is to be marketed, it will pay to read and act upon hints advanced in the

January and succeeding numbers of THE HORTICULTURIST in regard to marketing fruit.

LAWN AND FLOWER-GARDEN.

DURING this month the lawn will need some attention. As the grass grows on the permanent lawn, it should be mowed closely, and this will necessitate at least two cuttings, as it will grow fast; and it should be kept close to have a smooth, clean lawn, with a thick bottom sward. Heavy rains, and storms, will wash the walks, which will need repairing; and a constant source of annoyance will be the rapid growth of weeds, which will need frequent attention to keep in subjection.

The growth of vines on arbors and trellises will need watching, to train every shoot before it gets in a wrong direction, or is too long to be bent readily. Some vines which were started in the hot-bed, may yet be set out to cover naked or unsightly spots. Variety is produced with rustic baskets, etc., set and hung in different situations in the grounds, filled with trailing and more conspicuous plants and vines; cutting out regular and irregular-shaped beds, and raising mounds in the sward, and planting a variety of flowering and foliage plants, roses, etc.; low fancy trellises set, and vines trained to cover them, will add very much to the effect. Vases, urns, etc., instead of rustic work, will give a more stately appearance, when placed in conspicuous locations.

Cut back perpetual roses as soon as they have done blooming. Shake off the rose-bugs into dishes of hot water; in the morning they are the most stupid, and the easiest captured. A solution of one pound of whale-oil soap in seven to eight gallons of soft water is an excellent remedy for slugs. Strong soap-suds may prove effectual in the absence of the whale-oil soap; a repetition may be necessary, unless the common soap is quite strong.

Verbenas may yet be bedded out. Massed in different colors, they look the prettiest, and give the best effect. If any have grown tall or straggling, peg them down in position.

Any dahlias remaining not separated, may be divided, leaving only a single tuber, or portion of one to each, and immediately planting. As they are planted out, set stakes at the same time, and allow only one shoot to grow to each tuber, if you desire the best flowers.

Allow the foliage to wither, and the bulbs to ripen, before taking up spring flowering-bulbs. Dry them in the shade, under cover; wrap them in papers, neatly labeled, and lay away in a dry, cool place, to await the time of fall planting.

Transplant those annuals that are large enough, and need it. Seeds sown early in the month, will frequently do as well in the open ground as those put in earlier, and some kinds much better, especially the more tender varie-

ties. The soil having got warmed, warm rains to follow, the seeds germinate quickly, and grow very rapidly.

Tie up the flower-stalks of carnations to neat stakes or trellises for the purpose. Propagate by layers and cuttings. Procure a shallow dish of sand, and set the cuttings in, three fourths of an inch apart, and keep the sand constantly wet, and in a cool place, and they will root slowly but quite surely.

Keep perennial climbers, which need it, well tied up to the trellises. Keep tender kinds, which need laying down for winter protection, from intertwining and securing themselves to the lattice-work. Sow seeds of cypress vine, first scalding it; this makes a very pretty climber for a pyramid. Set a smooth, straight stake, eight feet high above ground, in the centre of an iron hoop, on the ground, four feet in diameter; fasten the hoop down with pegs; now stretch small cords from a nail in the top of the stake, to the ground, fastening six inches apart to the hoop, and at the foot of these cords plant the seed, and as the plants grow, train to the cords till the whole pyramid is covered.

As the flower-stems of the gladiolus appear, tie them to stakes, to secure from blowing down, etc.

Plant out geraniums, designed for bedding, and other bedding plants not already out, and as they grow out of shape, cut back to a compact form.

Cut the grass from grass-edgings with a grass-knife, as often as it is long enough to cut. Root out all coarse weeds, dandelions, etc., and keep all roots from extending into the border and walks, by the use of a sharp spade or edging-knife. The edges of all walks should be similarly trimmed to prevent the grass-roots extending into the walks.

VEGETABLE GARDEN.

IN the garden we have done with early planting, and are beginning to enjoy the returns of early vegetables, which we had the wisdom and forethought to provide for in season. Whatever planting remains to be done is for succession, and late crops, which should not be overlooked; as upon a constant succession, in a great measure, depends the economy of a good garden.

The middle of June usually finds the garden vegetables in nearly the same state of forwardness, whether we have a late or an early spring; as what is lost in earliness, is made up in rapidity of growth, after the first of the month, as nature appears to be in a hurry to incite growth.

Make beds of cardoons. What are they, do you ask? We neglected to say anything in regard to them last month, when the seed should have been sown. The cardoon belongs to the same family as the artichoke, which it resembles much. The shoots are used in soups, or in salads, after blanching. It is more frequently

grown as a novelty, than for use. The seeds are sown in early spring, or in the hot-bed, and carefully taken up and reset, in rows three feet apart, and eighteen inches apart in the row. It attains its growth early in the fall, when it is blanched by tying the leaves together, and earthed up the same as celery.

Make beds, well enriched, and sow seed of the beet, for the winter crop, by the middle of the month. The half long blood, and the improved long blood, are as good, if not the best, red beets for table use, for late fall and winter. The early crop should be hoed and thinned; those pulled out make excellent greens, boiled entire, after cleansing; the bottoms will have attained a considerable size by the end of the month.

Plant the Newington Wonder, Early Valentine or China, Dwarf Beans, for succession. Weed and hoe those already up, but hoe them only when free from dew or wet, as hoeing while they are wet seems to have an ill effect on them.

See that the pole or running beans incline to the poles, and if any fall over without attaching themselves to the pole, put them up, and tie with some soft material, unless by winding them around the pole they are inclined to stay without. Running beans always wind around the poles in the same direction; see which it is, and in putting them up do it in the natural way—if reversed, they unwind, or refuse to attach themselves to the poles in that direction.

Do not let your appetite, or the free, vigorous growth of the asparagus shoots, tempt you to exhaust the roots by over-cropping, but stop cutting by the middle of the month. See that any weeds or grass that have come in are pulled out, and stir the soil, as much as it can be carefully done, with a long-toothed rake or potato-hook; and if a light dressing of super-phosphate is worked in lightly over the surface of the bed, it will aid the plants to recuperate. In some localities this plant has a formidable enemy in the asparagus beetle (*Crioceris asparagi*, Linn.) lately imported into this country from Europe. It was first seen on Long Island in about the year 1860. It has crossed from there to the mainland, and without doubt—unless it meets with some very formidable natural enemy—it will eventually overspread the whole country. Hens are destructive to this insect, picking them off and devouring them, when allowed the range of the asparagus-bed.

Wherever this enemy is found, a war of extermination should be waged upon it. The beetle lays its first brood of eggs soon after the season for commencing cutting the asparagus for table use, which hatch in about eight days, the larvæ feeding on the more tender part of the young plants; these go into the pupa state about the end of June, and come out perfect beetles, to produce their second brood in August, to be succeeded by the beetle in September, which winters over in some sheltered situation, to repro-

duce its species the next spring. For a more extended description, etc., of this beetle, see No. 6, *American Entomologist*, to which we are indebted for some of the above facts.

Transplant, from the seed-beds, cabbages and cauliflowers, for the late crop. The cut-worm will very likely eat off some of the plants, which should be provided for by setting two plants to a hill, occasionally, so that when a plant is eaten off in any hill, a surplus one may be substituted by taking it with a ball of earth on the corner of the hoe, and resetting it, without further disturbing the roots. The main reliance in getting rid of these worms must be in hand-picking, searching them out early in the morning; we have often found them at this time eating out the centre bud, two to four inches above the ground.

This month is the time in which many plants in the garden are transplanted; that is, they are removed from where they were sown in the seed bed, to where they are to perfect themselves. It is well to study to know why and how this is done; as upon its proper performance depends the success of any transplanted crop or plant. We take advantage of certain laws of nature, to turn and direct the growth of plants to our greater profit, and we have found, in experience, that this can best be done, with a certain class of plants, by first sowing the seed in a seed-bed, and transplanting the plants after they have attained a suitable size. From the leaves of the plant an evaporation is constantly going on, the moisture being absorbed through the roots. Transplanting disturbs the functions of roots, thus breaking up the relation between the absorbing and evaporating surface; the evaporation is continued, and as a consequence the plant wilts. If the air is dry, evaporation is much more rapid than if moist; this would indicate that a moist atmosphere and damp soil would be the most suitable for the operation; yet with suitable precautions it may be done successfully, at any time, without regard to the weather. If only a few plants are to be transplanted, loosen and pull up the plant carefully, not to break off the roots; make a hole with a dibble, put the roots in, and then fill with water, allowing the soil to crumble and soak around the roots, as the water settles, and they will take foothold firmly; finish filling around the plant with the hand or hoe, watering again before the final filling is done. If well done, the plant will live and scarcely wilt under a clear sun and sky, a fact we have proved by experience; but it is best, to avoid risk, to give shade and do it toward evening, if done at any time except when the air and soil are moist.

Continue to plant sweet-corn for a succession; hoe that already up, and give it a sprinkle of guano, or some light fertilizer, and work it in close around the plants. Frequent and clean culture, on well-enriched, warm soil, is the greatest encourager to rapid growth and early maturity.

The last week in the month plant cucumber-

seeds, for growing pickle. The planting and treatment is the same as directed for the middle crop of cucumbers. Those already planted and up will need care, or the striped bug will destroy them; dust with plaster, and disturb them frequently. While young and small they can be protected, as advised last month, with boxes covered with gauze; or two sticks may be bowed and crossed over the hill, and a piece of gauze thrown over it, with soil put on the corners and edge, to hold it in place. J. J. Thomas, in *The Country Gentleman*, recommends a similar arrangement of sticks, to be covered with newspapers, as a protection against frost and bugs; the muslin or gauze will, we think, be found the better. A patented device has been produced to attain the same end, of keeping off the bugs, but we can see no particular advantage it has over these, unless it be that the same is fastened together, can be used several seasons, and when not in use can be packed away in a small compass, the frame being metal, covered with fine gauze or the like.

Make hills fifteen inches apart each way, well enriched with hen manure, or guano, and transplant into them the squash and bell-pepper plants, started in the hot-bed or its substitute. They want warm, rich soil to mature in, before fall frosts, and attain full development of the peppers.

Endive. You ask what it is. It is own brother to chicory; grown from the seed, and makes a large, flat tuft of leaves the first year; the roots kept over produce flowers, and seed the second season. It is blanched similarly to cardoon, and eaten as a salad; those who are fond of a bitter salad, may find in this all they desire. Sow in drills a foot apart, and thin, or transplant to the same distance in the drill, any time previous to August; it will endure the heat and drought, and form good-sized plants, suitable for late summer use.

The first of the month prepare the ground and set sweet potato plants, if not already done. Sweet potatoes of the Yellow Nansemond variety may be easily and successfully grown in any of our Northern States, with suitable culture. A light sandy soil is not absolutely essential, although it will produce a better flavored article, and somewhat earlier. Unlike Irish potatoes, they require high manuring, and seem all the healthier for it. Select a warm, rich spot of ground, fully exposed to the sun's rays during the entire day, and mark off the rows three feet apart, and strew good yard manure, or rich compost, along the marks, and then raise ridges over it ten inches high, and three inches wide on top; plant on top of the ridges eighteen inches apart; set the plants in up to the first leaf, and press the soil well around them. Shade and water, if dry weather when set.

A host of insect enemies are to be looked after and fought during the month, if we would avoid their ravages; among them the currant-worm will defoliate the currant-bushes, unless

closely watched and destroyed by some of the various remedies, such as dusting with powdered hellebore, etc. Every device and stratagem is allowable in protecting our crops from these pests, and destroying them. Set traps for moths, by placing wide-mouthed bottles of sweetened water where they will seek destruction by attempting a sip. Turn up the leaves of plants and hunt out the eggs glued to the under side and destroy them. Few cultivated plants there are, but have some one or more insect enemies, the eggs of which may be found on some portion of the plant by careful search.

Sow seeds of all succession crops, and replant where the first planting has failed, of any later planted crops, making the soil rich with strong manure.

The frequent use of the hoe and rake in keeping the soil loose and mellow, even if there are no weeds to destroy, is a great inducer to rapid growth and early maturity. Stirring the surface prevents baking or forming a crust, lets in the air and rain, induces to the free absorption of gases, and promotes early and large condensation of dew.

If any plants appear to suffer for want of water, it is better to give it to them at evening. Remove the top soil from around the plant, and then give the roots a thorough soaking, and return the soil around them again. Slightly sprinkling the surface does them no good.

Small Fruits.

PRUNING BLACK CURRANTS.—If the bushes have become too thick, they may be thinned out; but unless new shoots are wanted to be grown, it is not best to shorten back, as the practice is with the red and white currants. If young plants are to be managed, a systematic practice of shortening back the young shoots each year may be pursued. It will prevent the bushes fruiting quite as early, but will cause them to grow more symmetrical; and it is said the fruit becomes larger and finer than the old mode of growing in straggling bush-form.

MUCK.—If a fruit-grower has a muck bed within reach, he is fortunate. For all light or loamy lands, the application of one hundred or more loads per acre of well prepared muck is of the most beneficial character. It is hardly necessary for us to tell intelligent cultivators how to prepare it. It should be exposed to the air for six months or even a year, and composted meanwhile with lime, unleached ashes or fish-guano. When so prepared, it is worth as much as cow manure. After it has become sufficiently drained of surplus water, let it be worked over, and stacked up with alternate dressings of quick lime or fresh ashes. To every layer three inches thick of muck, put on just lime

enough to whiten the muck well. Good ashes are to be preferred to lime, because they contain potash as well as lime. A cord of muck (or one hundred and three bushels) will require about five bushels of ashes. After the heap has lain a few months, it should be shoveled over, and worked together in a mass. In six months, it will be ready for use.

RHUBARB ROOTS.—Cultivators must look well to the situation before planting. If planted where water will stand around them, they are unavoidably injured; if, however, they are planted in well-drained soil and well covered with horse or barn manure, they will not only produce more in the spring, but start much earlier.

THE Hartford Prolific grape does better on clay than on sandy and gravelly soils. The great objection to this grape is its tendency to drop its berries as soon as they are ripe. On clay land, it retains the berries better than on light, warm soils.

THE number of varieties of strawberries now named and cultivated is about three hundred, and yet there is not one of the entire number perfectly satisfactory for general cultivation.

THE CONCORD GRAPE—PRUNING.

THE owner of a Concord grape-vine tells the editor of the *Germantown Telegraph* that neither the bunches nor the berries are as large as formerly, and asks the reason. The reply is, that as a general thing, the Concord is not pruned as closely as it ought to be. It should be cut down nearly as much as the Black Hamburg. A Concord should not be fruited more than four seasons, as it requires frequent renewal of wood, which is most readily effected by layering. If thus managed, the *Telegraph* thinks, the fruit will not deteriorate, and will be subject to but little mildew or insect attacks.

SECOND-CROP RASPBERRIES.

WE have never considered raspberries bearing an early and a late crop of fruit in a single year, of much importance; for, somehow, it does not suit the popular taste, after once eating a raspberry in its regular season to have it served up again just before winter. Perhaps the unsuitableness or unpopularity of the thing rests more on the oddity of it than any thing else.

Of the second-crop raspberries now generally cultivated, the following are the principal varieties: Ohio Everbearing, Woodside, Catawissa, Belle de Fontenay, and Bagley's Perpetual.

The *Ohio Everbearing* is of the Black Cap family, quite productive, good size and flavor; plants are vigorous, but the second crop is much smaller than the first.

The *Woodside Raspberry*, originally indorsed by Mr. Fuller as "very promising." We believe he has since withdrawn his indorsement, as not equal to others already in cultivation.

The *Belle de Fontenay* is pronounced by Mr. Fuller the best of the autumn bearing varieties, but is tremendously productive of suckers; the berry is of a handsome crimson color and acid taste.

Bagley's Perpetual excites little attention. Its second crop is small and of inferior quality.

As to the *Catawissa*, we find quite a difference of opinion. One grower in New-York State estimates it highly, takes good care of it, and receives a good return; another says it is tender and will not survive the winter. Major Freas, of the *Germantown Telegraph*, has just given in his journal an emphatic indorsement of it, and we quote his words entire:

"We are somewhat surprised to see that in the discussion of fruit-growers, as well as in the pages of our horticultural journals, so little attention is paid to the *Catawissa raspberry*. While new and frequently doubtful fruits are elaborately noticed and commended, this fruit, which, after a number of years of trial, we estimate very highly, is ignored almost entirely. The reasons for this we do not comprehend. It is well known that the *Catawissa* produces two crops of berries annually—on the old wood in July, and the new wood from the middle of August until severe weather. We have had them upon our table as late as the *twelfth of November*. They are a good-sized fruit and of excellent flavor, and coming as they do when all other small fruits have disappeared, and in sufficient abundance to supply all domestic wants, we are at a loss to know why they should be so much neglected. We use only the second crop which grows upon the new wood, because as a first crop we have several other varieties, some of which are to be preferred to it. By so doing there is a much heavier crop derived, in consequence of the cutting away even with the ground, of all the canes, about the last of November; thus adding to the strength of the roots, and the growth of the new shoots the following year. The whole of this crop is upon the ends of the canes—sometimes there will be found ripe fruit and blossoms on the same cane, and immediately the fruit is in every stage of development. From twenty-five to thirty stools will afford a full supply of this excellent raspberry until cold weather puts a stop to maturation. We obtain from one to three quarts from a stool, and have in no season failed of a good supply.

"The *Catawissa* is a rather difficult variety to propagate. There are several ways, however, to succeed in it. First, by burying the tips of

the young canes an inch or so in the ground, whence they will take root; second, by dividing a stool, and separating the roots, planting the pieces either under glass or in a warm border, early in the spring; third, cuttings. We have discovered that cuttings properly prepared will grow pretty well. It is better to have two eyes on each cutting; the upper one should be about one inch below the abscission, and in setting the cutting, which should go five or six inches in the ground, this eye should be put down to the surface. The row of cuttings should have the soil pressed around them firmly with the foot. The canes to be used for cuttings should be either allowed to stand over winter, or cut off and buried. The cutting should be set out early in the spring, in a warm, protected border; or, if under glass, with a little bottom heat, early in February. Some propagated by us, in the latter way, bore fruit the same season.

"Those who once set out a bed of this raspberry will never abandon it."

Probably for those disposed to try the second-crop varieties of raspberries in their gardens, a dozen each of the Ohio Everbearing, Bellé de Fontenay, and Catawissa will be found perfectly sufficient, prior to a more extended planting.

A SUCCESSFUL METHOD OF STRIKING GRAPE CUTTINGS.—W. D. S., of Urbana, Ill., communicates to *The Small Fruit Recorder* the success of a friend in raising one-year-old vines from cuttings:

"A friend of mine, after the first frost in the fall of 1867, cut about two thousand grape cuttings of two eyes, of usual varieties, including Delaware and Diana. Soon after, he dug on the south side of an eminence a trench, or rather large hole, about three feet deep, and two and a half feet in diameter; in the bottom of this he put barnyard manure in an active state of fermentation, well packed up, and mixed to the depth of one foot. After treading this down, he sifted on the manure six inches thick of fine, well-rotted manure, mixed with fine sand. The cuttings were then placed upright, the large end down, with the lower bud in the siftings. The trench was then filled up with fine dirt, and over the top a large pile of straw and fresh horse-manure was placed, so as to prevent the probability of frost. Late in the spring, the cuttings were taken up and planted out in the usual manner, first, however, placing a small quantity of well-rotted manure on the bottom of the furrow in which they were planted. The success was magical. I never saw such year-old vines as they produced that fall. The Delawares were large, well-rooted, and fine. From the two thousand cuttings so treated, we had in the fall over nineteen hundred of the largest, best-rooted year-old vines I ever saw."

The Small Fruit Recorder has some good ideas on culture of berries, although somewhat

apt to be diffuse in treatment of subjects. We condense a few notes:

TO INSURE A GOOD CROP OF STRAWBERRIES.—"If, as the balance of your letter indicates, the rows of plants are perfect, and they are the *pure* Wilson Albany, just give them a good mulching of straw, marsh hay, or even corn-stalks that can be scraped up from any farmer's barnyard, just enough to hide the ground or snow, and you may be *certain* of getting two hundred bushels at the least calculation, and if you get four hundred we should not be surprised. As spring opens, pass along and pull the mulch off from directly over the plants, letting it lie close up to and between the rows. If the ground is not too foul or weedy, let them lie thus until after fruiting season, merely passing over the rows with a fork, hoe, or potato-digger, and working up the surface a little among the plants.

"If your ground is very foul and weedy, as soon as the frost is out, rake the mulching into every alternate row, and pass through twice in opposite directions with a good cultivator. Draw the mulching into these rows that are cultivated, and pass through the balance in the same way, after which scatter the mulch evenly over the surface between the rows, and up close to the plants."

TRIMMING RASPBERRIES.—"The raspberries I got of you last spring I did not trim, and they have made a prodigious growth. I refer to Miamis and Doolittles. Must I cut these back, and if so, as short as you recommend—within a foot of the ground? It seems too bad and wasteful, as I would like to get all the fruit I can the coming season."

Ah! there's the pinch in the last few words, and therein lies the secret why raspberry plantations prove so short-lived. Most planters are *too greedy*. They want big crops right away, at the sacrifice of healthy bushes afterward.

Just examine the roots; see how small they are in comparison to that great overgrown top. Trim it to within one foot of the ground. Don't calculate on a paying crop the first year. Let the root get well established. Keep the new growth cut back to within three or four feet, and you will be certain to have a well-paying plantation for years afterward.

"Shall I mulch them?"

It is owing to how you have got them planted out. If so that you can cultivate up *close* to them both ways—no; for the cultivator, if kept going in dry weather, is *the best* mulch known. Still, if the bushes have large tops, and you can not get up close, mulching will be beneficial thrown in around the bush, but wherever your cultivator can go, mulching is not necessary. If they are planted in rows so that they can not be cultivated but one way, then throw plenty of coarse mulching in close to the bushes, but not all over the ground, as recommended by some. Cultivate *when you can*, and do it *all you can*, and a sure crop can be relied on every year.

AN IMPROVEMENT ON THE WILSON ALBANY.—It is well known that the last run of the Wilson Albany is not so large as the first, and consequently does not show off so well on market stands. This can be easily remedied by planting every third or fourth plant in the row with some late large, showy sort—for instance, the *Triomphe de Gand* or *Jucunda*. These, being so uniformly and evenly mixed through the plantation, and being a finer berry than the Wilson, and nearly as productive, and being in their prime just as the last Wilsons are ripening up, add greatly to the value and appearance of the fruit.

The Garden.

PRUNING TOMATOES.—It is stated that gardeners in France cut off the stem of the tomato plants down to the first cluster of flowers which appears on them, thus impelling the sap into the buds below the cluster, which pushes up vigorously, producing another cluster of flowers. "When these are visible, the branch to which they belong is also topped down to their level; and this is done five times successively. By this means the plants become stout dwarf bushes, not over eighteen inches high. In order to prevent them from falling over, sticks or strings are stretched horizontally along the rows, so as to keep the plants erect. In addition to this, all the laterals that have no flowers whatsoever, are nipped off. In this way the ripe sap is directed into the fruit, which acquires beauty, size, and excellence, unattainable by other means."

VALUE OF MOLES TO GARDENERS.—It is quite natural for us, when we see a series of lines of raised earth in our gardens, to attempt to hunt up the mischief-maker and kill him; but moles, like crows, are useful, and men will learn sooner or later, that many poor insignificant creatures of animal or insect life, are their friends instead of their enemies. It only requires a little patient observation, and the observer will be practically convinced of the truth of this.

Mr. Weber, of Zurich, Switzerland, recently examined the stomachs of some moles caught in different localities, but failed to discover the slightest vestige of plants or roots; whereas they were filled with the remains of earth-worms. He shut up several of these animals in a box containing earth and sods with growing grass, and a smaller case of grub or earth-worms. In nine days, two moles devoured 341 white worms, 193 earth-worms, 25 caterpillars, and a mouse. Fed with a mixed diet of raw meat and vegetables, the moles ate the meat and left the plants; and when vegetables exclusively were dealt out to them, in twenty-four hours both died of starvation.

IMPORTANCE OF THE VEGETABLE GARDEN.—It is quite common for farmers to rise with the sun, turn all hands into the garden, and go over the entire space before breakfast. Whether or not the hoeing of plants, thus early in the morning when the dew is on them, is of any special benefit or injury, it is a fact, that this method of taking care of gardens is far too hasty and careless.

A vegetable garden is a most important auxiliary of the farm, simply as a provision of healthful food for the family. Instead of considering it a piece of side-work, let it receive a just share of attention regularly, and not by fits and starts.

There are three requisites in the successful management of a garden. 1st. Good manuring. 2d. Fine pulverization of the soil. 3d. Keeping master of the weeds. Use decomposed manure in preference to fresh, and save the best of your plants for seed.

SOAP-SUDS FOR GARDEN USE.

DURING the summer of 1868, I used soap-suds for the first time with great success, upon my turnips, radish, celery, squash, and cucumber plants. I found a lot of old whale-oil soap; and, as an experiment, made a weak solution and applied it to my summer and winter squash plants. I am delighted and surprised at the result. My gardener warned me that it would kill the plants.

The bugs were making sad havoc, eating the leaves and tormenting the plants. The whale-oil soap was a *quietus* to the bugs, destroying all upon the leaves; and new comers turned away in apparent disgust. The plants, on the other hand, relished the mixture and grew rapidly.

I sowed, on the 17th of July, with turnip and radish seeds. Watered the ground with soap-suds from the kitchen. The plants came up quickly. Discovering that the little black bugs, the tormentors of all such plants, were at work, I applied the whale-oil soap. *Presto!* away went the bugs. I gave the plants repeated watering with soap-suds. Mark the result.

On the 15th of August I pulled large, brittle radishes; and about the 20th of August I pulled one sound, sweet, brittle radish that measured five and a half inches in circumference, and five inches in length!

I applied the whale-oil soap and soap-suds to the turnip plants, with like result.

The soil of my garden was formerly all clay—such clay as would have rejoiced the hearts of the Israelites in Egypt, in their days of brick-making. I could not grow good radishes until I watered them plentifully with soap-suds. I have now growing the finest celery plants I have ever raised. They, too, have had a generous supply of soap-suds. Let all gardeners read and understand, then, that soap-suds is one of the most excellent materials that can be employ-

ed in the cultivation of all plants, and that it will pay satisfactorily to save all the suds on washing days, and have the liquid applied to the garden.

ONTARIO.

ONIONS.

WE know not whence is the source of this excellent selection, yet we know it contains information no less true and practical than interesting:

I place onions at the very top of the list of large family edibles. These bulbs are not only popular, healthy, and nutritive, but absolutely medicinal. I have known inveterate dyspepsia cured by the use of raw onions as a daily tonic, and on philosophical principles. They have the same exciting influence on the coats of the stomach that they have on the eyes, calling out gastric juice as freely as they do tears from the visual organs. For poultices they are invaluable.

Onions are multiplied, as all know, by various methods. In this climate, by sowing little black seed very early, they can be raised large enough the first year for table use; these are called rare-ripe. But it is usual to pull the product of these little seed, dry them for sets, and plant them in the fall or ensuing spring. The top onion is a sure dependence for a general crop. In this climate any onions will grow, but the red and silver-skinned are better keepers, and the last generally attains the finest size. Strong ground, shallow planting, and clean culture insure success. But the most valuable fact I have learned concerning onions is that, like potatoes, you may eat and then plant them.

I had a hardy variety called Welsh onions. The tops and bottoms being trimmed off in preparing for use, were thrown on a compost-heap. One day a child brought me some of these bottoms to show me that the onions I had thrown away were growing again. I took several bunches of these bottoms to the garden, set them out, and they grew as thriftily as if they had been perfect offsets from the old row. Taking the hint, I cut off the bottoms of other varieties, pieces as large as a silver twenty-five cent piece, with the fibrous roots attached, and set them out. They also sprouted, and being satisfied that they would grow, I allowed the thorns of other cares to choke them out of my memory, and so I can not say what sized bulb they would have produced, but record this for the benefit of persons with small gardens, who will be at pains to plant the bottoms of their onions as fast as they use them; thus enjoying two crops from the same piece of ground and same seed in one year.

ONIONS FOR POULTRY.—A few raw onions chopped up fine and mixed with the feed of young chickens, act like a tonic, and are equally good for old fowls. The tops too are good. We remember, long years ago, seeing an old maiden

aunt chopping up onion-tops and *sives* for the young turkeys, deeming it a certain specific against gaps, pip, or other ills that fowldom is heir to. Three times a week is not too often to give them a taste—not merely a taste, but a good bite also. Were the use of green food more common among poultry-raisers, we should hear of less cases of cholera, roup, gapes, pip, etc., etc. If sameness of food will engender distaste and disease in man, why not in fowls? Feed your fowls as you do yourself. Give them change, variety; and give them onions.

FRUIT GARDEN.—Every one who has land enough should have a separate inclosure for fruit. In a mixed garden, where vegetables and fruit are grown together, neither can be grown to the best advantage. The land should be drained, if at all disposed to be wet, and the soil deep, well worked, and of moderate richness. The care to protect the trees, etc., from injury is the same as noted under orchard.

HINTS.—A succession of fruit is to be planned for. By a proper selection, a supply may be had every day through the fruiting season. Strawberries, raspberries, currants, blackberries, grapes, etc., are rarities with farmers, rather than an essential part of their every-day food. With a climate that allows all of these to be produced with the greatest ease, how many thousands fail to enjoy them! Let us have less meat and more fruit.

The Flower Garden.

MULCH FOR ROSES.—The best mulch is half-rotten dung—decidedly better than in a state of fermentation. Spread it two inches deep.

FLOWER BORDER PLANTING.—A pretty border may be arranged thus: Let there be a grass verge between the border and the walk, and then back of that lay out four rows. The first, plant in Bijou Geranium; second row, *Calceolaria Aurea floribunda*; third, *Perilla Nankinensis*; fourth, Punch Geranium.

RAISING RHODODENDRONS FROM SEED.—This may be successfully done as follows: Procure some sweet sandy peat, and break it fine, and fill the pans three fourths full with it in an unsifted state, first draining them well. Sifted soil should then be put on the rough, and the surface having been leveled, sow the seed and cover with fine soil. Place in a cold frame, keep just moist, and let the temperature be regular.

If sown in a frame, place a good layer of rough cinders at the bottom, and on this, six inches of

turfy, sandy peat, and an inch or two of the same sifted, covering the seed with fine soil. If the seedling or the soil is kept too wet, the growth of moss will be encouraged.

FLOWER-BEDS. — Most summer-flowering plants blossom on the points of branches, and therefore to produce a continuance of flower, there must be a continued healthy and vigorous growth. It is true there are some flowers adapted to shade, like the fuchsias, daisies, etc., and these should be selected for such positions. Heliotropes and some of the geraniums do well where there is sun only a few hours a day.

Select an open exposure where the sun will have free access to the plants, dig the ground very deep, and dress heavily with thoroughly decomposed manure, so that the roots may have some supporting resort when the surface moisture falls.

A small circular or oval bed, ten or twelve feet in diameter, properly prepared, and planted with flowers from pots, will produce a continued mass of flowers even in the driest summers. In arranging the plants, there is much latitude for taste, and very striking combinations may be secured.

Rose beds are much more beautiful and satisfactory, when only a few well-known, hardy, and continued-blooming kinds are employed, than when planted indiscriminately, with robust and tall-growing sorts crowding those of more delicate growth. In larger yards, where several beds can be made, there will be a better opportunity for a display of this kind of cultivated taste.

SELECT LIST OF FLOWERS.

THE *Maine Farmer* suggests to its lady readers the following list of flowers as very desirable, and presenting a very beautiful display of bloom. The excellence of the selection is to be commended, and the hearty indorsement of the Climbing Rose, Gem of the Prairies, only repeats our own indorsement given last January. Would that every cottage in the entire country had its porch or door-yard embellished with one or more plants of this choice variety!

Dianthus quercifolius; a large double crimson pink—bloom from June to November.

Delphinium bicolor grandiflora; a larkspur of very large, azure blue, white centre, blooms.

Geranium, General Grant; flowers scarlet, very double and large; truss immense size; a profuse bloomer.

Geranium, Mrs. Pollock; flowers rich scarlet; large truss. The leaves are wholly covered with rings called zones; of deep green, bronze, pale green, scarlet, and edged with yellow.

Geranium, Amelina Grisseau; flowers salmon, striped and spotted with white, as rich as carnation pinks.

Geranium, Mountain of Snow, and Cloth of

Gold; belong to the silver-leaved variety; their leaves are splendid.

Geranium, Compacta; flower truss, the most complete known, free bloomer, rich scales.

Geranium, Luscious; flowers deep red, truss large, and petals perfect, considered the best by some fanciers.

Geranium, Mrs. Alexander; flowers deep salmon, delicate and beautiful in shape.

Geraniums, Christine, Mignon, Ellen Lindley, and Zonales, of the pink variety, are extremely beautiful. The *Christine* is a deep rich pink.

Chrysanthemum lanciniatum; flowers very large and double; the petals are all fringed—new variety.

Chrysanthemum Virgin Queen; flowers immensely large and double; the petals all finely quilled and rich.

New Verbenas; flowers striped and mottled, of various colors; trusses and flowerets exceedingly large. The following are named: *Birds of Paradise, Clara, Fancy Queen, Flirt, Harkaway, Miss Curwen*.

New Petunias; Carnation, striped, cream and purple; *General Sheridan*, marbled, white, and crimson; *Lieutenant-General*, veined with white crimson and lilac; *Mrs. Henderson*, white and rose—splendid.

The new and highly improved varieties of *Achyranthus* and *Coleus*, which people know for their dark variegated leaves, of dark crimson, white, yellow, deep and pale green—all exquisitely beautiful.

Rose, Gem of the Prairies; is a very hardy, rapid climber; flowers scarlet and crimson; fragrant and very double. This is the best, most hardy, and free flowering sweet-scented climbing rose of yearly blooming; we have nothing to equal it as yet.

Clematis Lanuginosa; a new, hardy, herbaceous climber; flowers lilac, running into a pale blue; very large size; blooms in April and May; grows six feet high, wholly covered with flowers.

HOW TO GATHER AND PRESERVE PLANTS

THE ladies are deeply interested in this subject, which we are glad to see is becoming more popular every year. A good healthy ramble in the fields or woods, gathering dainty flowers and beautiful leaves, is a far more inspiring and stimulating means of enjoyment than crochét work and poetry reading in-doors.

The *Maine Farmer* again pleases the lady reader with a little practical information as to how to do it nicely and well.

1. If possible, gather plants upon a dry day, and protect them from sunlight and wind.
2. Plants should be gathered when in flower.
3. A single specimen should be a perfect representative of the plant—not only the flower, but bud, fruit, or seed, all its various kinds of leaves, and, in small plants, even the root. With

some plants these can all be represented in the same specimen, but with others it is necessary to collect specimens both in flower and in fruit.

4. If the plant be small, dry the whole, root, stalk, and flower; if large, a branch in flower should be preserved; at any rate, a flower with the leaves should be dried, if possible.

5. Plants should be thoroughly dried between sheets of paper—old newspapers will answer. Two kinds of papers are needed in drying them, namely, *folds* and *dryers*. Folds are simply pieces of paper folded once, like a sheet of writing paper, into which the plants to be dried and pressed are to be put. Dryers are larger sheets of thick unsized paper—old newspapers will answer—used to absorb the moisture of the plants when being pressed. In changing the plants to new dryers—which should be done every other day—never remove them from the folds until completely dried.

6. When the plants are within these dryers, press them between hard wood boards, using for the purpose a weight of from 50 to 75 lbs.

7. When the plants are perfectly dried, remove them from the dryers, and attach them to sheets of white paper about 11 by 16 inches in size, and write upon each the scientific and common name, when in flower, where found, soil it flourishes in, etc.

It is well for parties who desire to collect plants, grasses, etc., growing in their localities, to record the same, and prepare blanks where may be noted, under a proper head, the name of the plant, where found, time of flowering, duration, stem, leaves, flowers, remarks, notes, etc.; in this way botany becomes a pleasure instead of a dread study.

ADVICE AS TO SELECTION OF FLOWERING SHRUBS AND HEDGE PLANTS.

Hearth and Home gives a list of early flowering shrubs, which are appropriate for small gardens.

EARLY FLOWERING SHRUBS.—The following hardy shrubs bloom early in the season and are worthy of a place even in the smallest garden:

Andromeda floribunda.—A low evergreen, with small, pure white flowers.

Cassandra Calyculata.—Small shrubs, nearly evergreen, flowers white.

Cydonia Japonica, or *Japan Quince*.—There are several varieties of this shrub, but the most common, and probably the best, has bright scarlet flowers.

Daphne Mezereum.—Flowers very fragrant, rose-colored; one variety has pure white flowers.

Daphne cuneorum.—Blossoms a little later than the *Mezereum*. Flowers rose-pink, a low evergreen shrub.

Forsythia viridissima.—A strong-growing

shrub, with yellow flowers, which appear before the leaves.

Forsythia suspensa.—A straggling, half-creeping shrub, with flowers similar to the above, but not so abundant.

Ribes sanguineum.—Red, flowering currant. Flowers small, produced on long racemes, and of a deep red color. The *R. Gordonii* has flowers of a lighter color, but the plant is more hardy and vigorous.

PLANTS FOR A SHADY SITUATION.—There are in city gardens or in the country, on the north side of houses, many shady situations which the sun can not reach, and where very few plants will grow. Our best recommendation is to try ferns. These are by nature lovers of a cold climate and temperature, and by a judicious arrangement many pleasing combinations and effects can be produced. We give here a list of some of the shrubs that will succeed well:

Aucuba Japonica, *Berberis Aquifolium*, *B. Repens*, and *B. Darwinii*, *Box*, common and variegated *Hollies*, common *Laurel*, *Cotoneaster Microphylla*, *Privet*, *Rhododendron Ponticum*, *St. John's Wort*, *Spurge Laurel*, *Snowberry Ivy* for the walls, and *Periwinkle* where nothing else will grow.

The common *Yew*, *Alexandrian Laurel*, and the common *Butcher's Broom* comprise nearly all the best plants. Ferns will always be found very suitable, and will be far more successful than shrubs.

OBJECTIONS TO CERTAIN HEDGE PLANTS.—Almost every plant that has been recommended for hedges is said by its friends to be without a fault, but we have not as yet discovered the perfect plant. The following objections to some of the leading kinds may be of value to those who are about planting one or more of them:

Pyrus Japonica produces too many suckers, and is very liable to be infested by the woolly scale, so common in many portions of the country upon apple-trees; all of the bark-lice that prey upon the apple will also live and thrive upon this plant.

Osage Orange grows too rapidly on rich soils, and is very liable to winter-kill, except in warm climates; it is also liable to have its bark gnawed away when young by the ground-mice.

Privet, a handsome, ornamental hedge-plant; but when it is ten or more years old it is often attacked with blight, and will die out in large patches, leaving vacant places that it is difficult to fill up.

English Hawthorn will not withstand our hot, dry summer weather when kept close-pruned, as required for a hedge. In addition to this very serious fault, the borer will often attack it and destroy a hedge in a single season. Our native thorns are even more liable to be attacked by this pest than the foreign.

Honey Locust.—For a coarse hedge for turning cattle this will answer very well, but it requires severe and constant pruning to keep it within proper limits, unless planted on very poor soil.

Beech makes a handsome hedge; but cattle will browse it, and the borers will usually destroy it sooner or later, particularly if planted in a light, warm soil. Borers are more likely to attack plants when grown in a hedge than when they stand singly, because the bark of a tree when constantly shaded is soft, and offers a better opportunity for the female moth to deposit her eggs.

FLOWERING SHRUBBERY.—Every one acquainted with the subject has his preference, or rather fancy, as to the flowering shrubs. But there is a group of them which, by universal consent, every one admires and desires to see upon his premises. Among them are the following: The several *Spiræas*, especially *Reevesii* and *Prunifolia*, *Deutzias*, *Forsythia*, *Colutea*, *Wiegelia*, *Snow-Ball*, *Philadelphus Coronatus*, *Pyrus Japonica*, Double-flowering Chinese Apple, *Magnolia Soulangeana*, *Magnolia Conspicua*, *Mist Tree*, *Persian Lilac*, *Enonymus*, Flowering Almond, Double-flowering Peach, etc.

There are numerous others which, when carefully cultivated, are very pretty and add much to the floricultural appearance of the premises; but each one will find out for himself as he progresses in his improvements, and his knowledge becomes more expanded in floriculture, what to add to the collection, as his taste may dictate.—*Ger. Telegraph*.

The Orchard.

LIME AND MANURE FOR PEACH-TREES.—At a late meeting of the Potomac (Virginia) Fruit-Growers' Association, various incidents of experience in this practice were elicited.

Major Hine inquired whether it was best to apply lime to a young peach orchard in the spring or fall.

Mr. Klock.—It makes no difference so long as it is turned under the soil. I set out peach-trees on very poor soil, and plowed the orchard twice a year, except during the war. I then put in buck-wheat, which came to a fine crop, and used lime the next year. The orchard is now in fine condition.

Dr. Lloyd.—Lime is an excellent thing for orchards, and it is immaterial when it is applied. A load of lime was dumped by mistake around a young peach-tree of mine, which soon dropped its leaves, and was, to all appearances, dead. The next spring, however, it put out a fine growth, and is now the handsomest tree in my orchard.

Mr. Boyer, of Tompkins County, New-York

—I take away the soil from about the trunks of trees in the spring, apply about a peck of lime, and a month or so afterward put back the earth, mixing it well with the lime. It keeps the trees healthy.

Mr. Read.—I save all the liquid manure from the barnyard, and give it to the peach-trees. It makes them thrifty.

President.—I have a large barrel in which are saved all the house slops, soapsuds, stable drainings, etc. It is the best manure for many purposes, and should never be wasted."

A. R. WHITNEY, residing near Franklin Grove Station, Ill., has one hundred and thirty-five acres of an apple orchard, containing between fifteen and sixteen thousand fruitful trees. There were over ten thousand bushels of apples marketed from this farm last year—on the line of the Pacific Railroad. All the more popular varieties are grown in this orchard. In the vicinity of this orchard are others, some of which contain as many as five hundred apple-trees, backed up by pears and vineyard products.

OLD TREES.—There is an interest in old trees which seems to be a never failing topic of discussion. The oldest tree or the biggest tree in *any county* is sure to have a reputation hardly equaled by any other local curiosity. Old people, too, love to talk of these familiar topics, and their children after them repeat with pleasure the queer old stories and ideas about the "old trees" which still live, while every one else grows old and drops away forgotten. Here is a practical argument to the young and of the present generation to *plant trees* for all futurity. They may fall from the ranks of life at any time, but the trees they planted bear their names on for years with many a precious memory.

If a mulching is employed at the time of planting trees, they will never need watering. Uniform temperature and a constant supply of moisture are the prime elements of success in fruit culture. Mulching enables us to accomplish this. Mulching acts beneficially in other ways. It prevents to a great degree the cracking of fruit, and causes those varieties which are generally spotted and defaced to become clean and covered with a rich bloom.

ASHES FOR FRUIT-TREES.—We have known quite a number of instances—indeed, so often as to make it quite a rule—that old orchards apparently dying out have been brought back again to fruitfulness by a liberal use of wood-ashes, also stirring the soil. Potash is the most important element in the successful growth of all kinds of fruit-trees. An old gentleman told a club, not long ago, that he had known a man

make and preserve an orchard of apple-trees in a flourishing and productive condition, originally placed on very poor ground, by sprinkling every year around each tree, to the circumference of the extent of its branches, half a bushel of ashes. We consider this a very important item.

GUANO.—Some experienced cultivators have given us instances of the use of guano on fruit-trees with beneficial results. Although the trees seemed to wither up and become sickly looking the first year, nevertheless the second year they grew so fresh and green and luxuriant as to astonish their owners.

We have seen guano water applied to grapevines, causing them to wither up, as it were with intense heat, the first year, but the second year exceeding all former years in beauty and fruitfulness. Guano should never be brought directly in contact with seeds or the roots of trees or plants. It should always be mixed with about six times its weight of finely sifted soil or loam.

LIME ON PEACH-TREES.—Mr. Bailey, of El Paso, Ill., writes to the *Western Rural* that the application of lime to peach-trees is a successful method of treatment: "I saw recently an article on lime being injurious to peach-trees. I will here state an experiment tried by myself on trees last spring. In our garden there were six trees. They all bloomed and looked well. The fruit set nice, but on some the leaves did not start. I thought there was something wrong; on examination the borer was there. I trimmed off the bark, found the insect as described in the paper; took air-slacked lime and put it all around the stem; then put back the dirt. The leaves came out and the peaches got ripe. The trees looked well. Those where I didn't put lime died."

DUCHESSE DE BORDEAUX PEAR.—Messrs. Smith, Clark & Powell, of Syracuse, N. Y., report that they have cultivated this pear for several years, and find it to be one of the most hardy trees in the whole list of pears. It has fruited the last two years, and this year, (Feb. 24th,) tested it with "Easter Beurré," and are satisfied it will fully come up to the description given by Dr. Houghton.

BLACK KNOT IN PLUM-TREES.—In some sections of the country the plum-trees are comparatively free from the disease of the Black Knot. Fruit-growers living there are very fortunate, for we know from long experience how disheartening it is to bestow upon a favorite plum-tree all our best care, and naturally expecting luscious results, but only to find in our way this insidious enemy, whose stealthy approach is no less unseen than dangerous. The

only remedy is to *use the knife* freely all the time; early spring, late spring, keep cutting, even if it almost cuts the tree away. Burn up all the slips and branches cut off, and, with due perseverance, the grower will find the tree recovering and rewarding him for his labors.

D. D. WALSH, of Rock Island, Illinois, well known as an entomologist, says that all his examinations have resulted in the conviction that the black knot on the plum tree is the effect of a fungus, and is not a disease nor a gall. He thinks the spores or seeds are formed about the end of July, in latitude 40° 30', and, therefore, if the excrescences be all cut off and destroyed by the early part of July, an effectual stop will be put to their further spread.

APPLE WORMS.—We cull the following facts concerning these intolerable pests, from the *American Entomologist*: It has long been known that, by placing an old cloth, or any thing of that nature, in the crotch of an apple tree, the apple worms may be decoyed into building their cocoons underneath it, and thus be destroyed wholesale. Dr. Trimble's method, which amounts to the same thing, and has been found to be practically very beneficial, is to fasten two or three turns of a hay band round the trunk of the apple-tree, and every few days, from the middle of July to the middle of September, to slip the hay band up and destroy the cocoons that have from time to time been formed on the bark underneath it.

All authors are agreed as to the practical importance of picking up and destroying the wormy apples as fast as they fall, either by hog power, or, when that is inconvenient and impracticable, by man power. The practical utility of allowing a gang of hogs the range of the apple orchard throughout the summer is undoubted. When we consider, that every female moth that hatches out in July or August, from the first brood of apple worms, will probably deposit an egg in some two or three hundred nearly matured apples, thereby rendering them more or less unsalable, the importance of destroying the wormy wind-falls—in the fore part of the season at all events—becomes at once apparent.

BONES FOR FRUIT-TREES.—Bones collect in considerable quantities about every household, and in villages many have no use for them. They may be had for the gathering oftentimes, or for a small consideration. A tree-planter can make no better investment of a few dollars than to purchase these old bones, and after crushing them into inch pieces, put a bushel or two into each border where a tree is set. They are also an excellent dressing for trees already planted, and may be dug in around the roots. Old trees that have become stunted and unfruitful

are often started into new growth and fruitfulness by this means. It sometimes remedies the cracking of pears. All the bones about the premises should be saved for the fruit-trees.

Suggestions.

MUST A BERRY BOX OR BASKET HAVE

"SLOPING SIDES?"

MUCH valuable information is contained in an article of the April number of the HORTICULTURIST, entitled "Additional Hints," etc. But I think the writer was much too sweeping in his condemnation of all berry boxes but those with sloping and ventilated sides. The fruit-growers in this neighborhood have used for two years, a square box with straight sides and ventilated bottom, and have sent it in the same shipments with the sloping baskets, to the same markets, with equal success. And said box being only one third the price, and so arranged in the crate as to present the fruit in market with heaped-up measure after the shaking of transportation, has run the sloping-sided basket out of this market.

As it is customary now in our Western cities to give the box, when the berries are sold, it makes a great difference in the cost of shipping whether a one-cent box or a three-cent basket be given away.

There are two reasons why baskets and boxes are not sent back to the shipper. First, the dealers find it a very perplexing matter to gather and return each box to its proper owner. Second, berries should be shipped in a new, clean box, as a second using involves a greater or less degree of impurity and uncleanness.

It is not true that expensive baskets always insure the best prices, as it depends on the manner of picking and putting in boxes and crates.

Such is the experience of myself and neighbors who have tried sloping-sided baskets and the boxes above referred to. A. J. MOORE.

BERLIN HEIGHTS, O.

BEETS.—To raise beets with best success, sow the Early Bassano in drills eighteen inches wide; thin out to one foot apart. Top-dress the ground with Peruvian guano, and you will have prime beets fit to pull in seventy days.

HOME-MADE SUPERPHOSPHATE.—Get all the bones you can find. Put into a wide wooden trough, 500 to 1000 lbs. at a time; take pure sulphuric acid (60° quality) at the rate of two carboys to a ton of bones. Mix half and half with warm water, and apply directly over the

bones. Sprinkle over the top with dirt; allow them to remain a day or two, and on uncovering, the bones will fall to pieces at the slightest touch. Spread out on the floor to dry, and you have a superphosphate better than can be bought.

Correspondence.

PRUNING APPLE-TREES.

MUCH has been said and written by orchardists in regard to the best months for pruning fruit-trees. Some recommend doing it just as the frost is leaving the ground, and before the buds burst; some while the trees are in bloom; while others contend that fall is decidedly preferable. From more than twenty years' observation I have become fully satisfied that no season of the year is so objectionable as the spring, when the buds are expanding, and the sap thin and in full flow. The sap is quite injurious as it oozes out, and causes the wound to assume a dark, unhealthy appearance, which is a sure omen of decay.

Every season has its advantages as well as disadvantages; but none is preferable, in my opinion, to summer, when the days are the longest. The sap then is not so thin and watery as in the spring, and consequently less liable to flow out, and wounds heal much more rapidly. I am of the opinion that very light pruning is much preferable to heavy, for the health of the tree; and even none at all I should prefer, rather than to kill trees by inches as some do, by heavy pruning. But, let pruning be done when it may, I think much benefit is derived from applying a coating of cement to the wound, to exclude the air, and prevent its cracking.

My grandfather told me, when he was alive, he had tried various kinds, and found nothing more economical than to melt four pounds of rosin in one pint of linseed-oil, and apply warm with an old moderately stiff paint-brush. I shall be very happy to hear from others upon this subject. A. C., JR.

BETHEL, ME., March 28, 1869.

AN EASY METHOD OF GROWING STRAWBERRIES.—I have found in my experience, that the best soil for strawberries is a sandy loam, well warmed, and the plants set out in hills, eighteen inches apart, *in the spring*. Many prefer September; but I think spring the surest and most efficient season. After the runners have grown far enough, instead of cutting them off with shears, I take a sharp spade, and cut around the hill, thus doing the work in a much easier way, and in much less time. Planted in hills, they can be cultivated to better advantage than in rows or drills. J. SHEARER.

PLYMOUTH, MICH.

Literary Notices.

THE FARMERS' AND MECHANICS' MANUAL.

By George E. Waring, Jr. Published by E. B. Treat & Co., 654 Broadway, New-York.

The purpose of the author in the publication of this work has been simply to present, for constant reference and information, valuable tables on all points of interest and practical necessity to the farmer or mechanic. As, for instance, the measurement of land, how to estimate crops in bulk, rules for timber measure, weight of grain and seeds, and a large amount of other practical information on farming, draining, gardening, manures, house-painting, etc. It is intended to fill a void half-way between the common arithmetic and the abstruse volumes of geometry or mechanics. This work is well done, and the volume is an indispensable hand-book to every one who lives in the country.

CLASS-BOOK OF BOTANY. By Alphonso Wood. A. S. Barnes & Co., Publishers, New-York.

The public have always esteemed Wood's *Botany* as one of the most full and complete published, and the volume before us, containing many extended revisions and additions, more than ever justifies the high estimation in which the work is held. The publishers announce a new work, *The Botanical Index*, a text-book, in which "the study of the plants of the whole country is reduced to the last degree of precision and dispatch." Botany is generally esteemed an unpopular study with the young, but such a disposition is really unwise; he who neglects to study botany passes his whole life through a world of floral beauties, none of which he can understand or explain.

REPORT OF COMMISSIONER OF AGRICULTURE. 1867. Washington, D. C.

This volume is equal in interest to any of its predecessors. Some of the articles are of special excellence, such as the Report of The Entomologist, Elliott's Illustrations of Fruits, Geo. Husmann's article on American Wine, Farmers' Clubs, by Rufus Nutting, and Experiments in Liquid Manure, by William S. Rand. This last, together with the list of Agricultural and Horticultural Societies in the United States, are the most valuable features to our taste of the entire work.

ILLUSTRATED TRAVELS. Part I. Edited by H. W. Bates. Published by Cassell, Petter & Galpin.

A most excellent series of papers, intended to give in monthly parts illustrated descriptions of travels in various parts of the world. The first part before us is abundantly filled with choice engravings, and takes the reader plea-

santly through Central Africa, Colorado Territory, U. S., Spain, Madagascar, and Manchuria, Asia. The entire set of numbers can not fail to make up a volume of choice interest, especially as the work is under the care of so excellent a firm of publishers.

Acknowledgments.

THE editor presents his compliments to those gentlemen who have favored him this spring with new seeds and plants, many of which will no doubt prove real acquisitions.

For a package of Lyman's Mammoth Cluster Tomato, from Wm. H. Lyman, Leverett, Mass.

To James Vick, of Rochester, for a good *bumping* boxful of garden seeds.

To O. L. Barler, for a package of seed² of the "Alton Large Nutmeg Melon." *Won't we have good times when they are ripe?*

To Ellwanger & Barry, we tender our profound considerations for sending us a lot of "Marshall Niel Rose," and then *charging* us with a bill.

To B. Hathaway, of Michigan, for a fine box of the Michigan Seedling Strawberry, which we will report on next fall.

To I. H. Babcock, of Lockport, N. Y., for a dozen Salem vines. May the shadow of these gentlemen never be less, and may those who follow in their footsteps, and remember their editor kindly, also do as they did, *prepay the express charges*.

CATALOGUES.—When we see a man getting out a better catalogue than usual, we feel like saying, "There's no use in keeping *him* down; he's bound to succeed." Generally we are right, as in fruits and flowers, the tastiest man has the most and best customers. Illustrated catalogues are captivating things to readers, and usually it results in the emptying of their pocket-books into those of the nursery and seedsmen. We got caught that way many years ago, when we saw a picture of some beautiful Asters, and we sent for a dozen different kinds; but in spite of all our coaxings and loving caresses, they never got over six inches high, and since then no one can talk Aster or Dianthus to us.

Messrs. Graves, Selover, Willard & Co., of Geneva, N. Y., have greatly improved their previous catalogues by adding a large number of illustrations and colored plates. It is now one of the best in the country.

Wm. H. Lyman, of Leverett, Mass., has issued an exceedingly pretty Floral Catalogue, which will grace any table.



Practical Hints to Fruit-Growers.

BY H. T. WILLIAMS.

No. 7.—*Shall we Cultivate our Orchards or not?*

MANY FARMERS are puzzled now over the question which has been again raised, whether it is advisable to cultivate their orchards, or allow them to remain in grass.

This question has been started by the remark of a horticultural cotemporary, who asserts that the root-fibres of fruit and other trees are produced annually, like leaves, and lying so near the surface of the ground where they receive their nourishment, the cultivation of the ground by any instrument whatever will cause their mutilation, and interfere with the successful healthy growth of the tree; hence the advice is given to allow the orchards to remain in grass.

Such advice as this, coming from so influential a source, is likely to do much injury to orchards under the care of ignorant hands, unless a more judicious method of treatment is suggested.

We have abundant reason at present to deplore the state of the majority of our orchards for this very reason, that they are grass-grown, neglected, and decaying.

It may be set down as a fact, that wherever a farmer takes pains to cultivate his orchard to help the fruitfulness of his trees, he will be mindful of their health in other ways, and will be constantly on the lookout for worms and insects, or will take care to prune properly, or thin out superabundant fruit; in short, it proves that he is a fruit-grower of *good habits*, which are really the foundation of all real success. But if, for the sake of some "*scientific truth*," a farmer is led to believe that "*grass in orchards*" is a benefit, he is at once easily led into an entire neglect of the means necessary to preserve his fruit-trees, and, as a result, his trees are easily barked by mice, afflicted by the borer, infested by caterpillars; the grass absorbs nourishment properly belonging to the tree, and the farmer, with easy habits of negligence clinging strongly to him, will forget to replace it with a good dressing of manure. It is readily seen where such a course will finally end, and it is not a slight responsibility for any one to assume to promulgate to the world such advice as this, which will, without doubt, have a tendency to do far more harm than good.

The "*let alone*" system has prevailed long enough; and in these days of enlightened horticultural knowledge, no practice should be tolerated or encouraged for an instant which will act as a hinderance to successful fruit culture. This "*let alone*" system for orchards has been advocated for so many years by a majority of our agricultural journals,

that it is not strange farmers consider it perfectly proper and reasonable ; and now the task is hard to convince them of the error of a policy so deeply seated and so self-evidently suicidal.

Our answer to this question is, "*cultivate by all means ;*" not only to beget good habits and proper attention to the health of the trees, but to increase their fruitfulness, and maintain it for years ahead.

Every one who has observed orchards at all under different methods of treatment knows that trees will grow faster and better if the ground is cultivated and manured well. A correspondent of ours, a practical fruit-grower, says that, after an experience of a quarter of a century, he has arrived at the conclusion that cultivation has proved highly beneficial, while the want of cultivation has been equally detrimental.

"When I set my first orchard, nine trees were left without cultivation, while the rest were well cultivated for several years. The trees 'let alone' did not make near half the growth that the cultivated ones did."

The essential point aimed at is, to induce the *growth* of the tree, or first *make the tree*, then get the fruit.

As a general rule, young orchards not old enough to bear may be moderately stimulated, provided it is not at the sacrifice of the maturity of the wood. If too rapid a growth is induced, the wood will not mature, and the cold of winter may kill it. Hence a farmer must use his judgment well between the two extremes of cultivation and non-cultivation, as giving rapid growth or retarding growth altogether.

If any farmer will take pains to study the simplest facts in vegetable physiology, he will find that the roots of all trees and plants flourish best in the surface soil, where all the vegetable mould is abundant, and where they have the benefit of sun, air, warmth, and fertilization. Their nearness to the surface varies from two to six inches—rarely over ten. It will then be apparent that in our treatment of our trees, we must use such means as will, on the one hand, neither mutilate or disturb these roots, and, on the other, not deprive them of appropriate and necessary nourishment and moisture.

During the first year of planting, the roots of fruit-trees extend only a short distance from the trunk, and increase rapidly during each succeeding year, extending at last far out beyond the tips of the branches. Thus, in course of time, the soil to an infinite degree becomes filled with an innumerable number of roots, large and small, and to drag a *plow* down deep through this vast mass of precious feeders would not fail of producing a deep and irreparable injury. But the objects of cultivation can be far more easily attained by a light stirring of the surface-soil with a cultivator, harrow, or hoe, to a depth of three inches—rarely more—but a plow should never be used. Hoed crops of roots, etc., never of grain, may be permitted in the open spaces ; but year after year these spaces are becoming less in extent, until after a short time the orchard covers the entire ground, where both branches and roots occupy and need the entire surface.

Then all the energy of the soil should be directed to the production of fruit. The grass and weeds should be kept down, the surface kept constantly mellow, and all tendency to neglect persistently resisted.

Upon many farms, the orchard is one of the most favored lots for hay, and the crops gathered therefrom are considered of choice quality. This practice of mowing an orchard is totally wrong ; hardly a worse treatment could be given it for a series of years, and is hardly more than a form of systematic robbery. No ; our advice is plain and practical, that wherever an orchard is making a fair annual growth of wood, keep the ground well cultivated, and admit no other crops ; where the growth is slow, stimulate with top dressing of manure in the fall. Where orchards have been in sod for many years and begin to fail, break up the sod gradually ; but the first year plow no furrow over three or four inches deep, then allow the sod to decay, and cultivate well.

A very important fact, not to be overlooked, is, that a mode of treatment which may be very proper and successful in Pennsylvania or the South is totally inadmissible in the Northern and Eastern States, and but partly admissible in the West.

Variations of climate are to be our great guides, as well as the natural habits of the trees we grow, or the condition of soil.

If we owned an orchard in any portion of the United States north of latitude 43°, we

would adopt the mode of treatment we have described above ; but when we leave this latitude and go to the warmer climates of Pennsylvania, New-Jersey, Delaware, and the South, where the genial atmosphere induces an exuberant growth of wood, with sometimes a tendency to diminish the crop of fruit, we must adopt a policy which shall restrain the wood-growth somewhat, and direct it more strongly to the development of *fruit*. We would then adopt this treatment : Cultivate with root-crops until the trees have arrived at fruiting age ; then, if the growth is too rank and exuberant and ground too rich, seed the ground down exclusively to *clover*. This does not make a stiff, compact sward, like fine grasses, which are usually so detrimental to the growth of young trees, but will keep the land open and porous, as well as serve to enrich it. At occasional intervals of several years, the sward may be plowed up, and the ground cultivated for a season with root-crops, to be followed by clover again. The surface of the soil may be also occasionally enriched with dressings of manure, but manure is not necessary where the growth is already rank and luxuriant ; when that growth begins to cease, then it may be applied with safety.

In this way, not only is the land kept in good heart, but the crops of clover will give a fair return, the trees will be healthy, vigorous, well developed, the roots will have perfect freedom of growth, the moisture they so much delight in, with no mutilation of plow or cultivator, and by their fruitfulness be both an ornament and a profit to the owner of the farm.

In the West, we would choose the first or the second method of treatment, according to the growth of the trees themselves ; if moderate, we would content ourselves without the grass ; if exuberant to the detriment of the fruit, we would employ it until the balance was again restored, but no longer.

It is a principle worthy of remembrance by all, that the use of grass in orchards is only that of "*checking excessive growth*," and it should not be employed without good judgment as to appropriateness, to location, and length of time. *Drainage* should never be overlooked ; but the fact can not be denied that cultivation, either with or without tile drainage, is of the first importance. It prolongs the life of our trees. It gives us more and better fruit. If properly done, it provides us with good surface drainage. It carries us through the season of protracted drought without damage to tree or fruit.

If it imparts strength and vigor to the tree, it follows that the fruit-buds must be stronger, and will therefore stand more cold. Experience teaches us also that cultivation is one of the best general remedies against insect depredations known, both those that destroy the fruit and those that attack the trunk, limbs, and foliage. The former has no harbor or protection from birds and insects that prey upon them, and the stirring of the soil must expose and destroy many that seek it during a certain period of their existence. The latter class, as is well known, are not so liable to attack strong, healthy trees as they are those that are less vigorous.

In our method of culture, we have concluded to adhere as closely as possible to that good old maxim, "*when fruit-trees occupy the ground, nothing else should.*" Thus far we have found it to pay, and propose hereafter to stick to the cultivator first, and let the grass theory alone until its use becomes absolutely needful.

Trips among the Fruit-Growers.

No. 1. *The Flower-Farm and Nursery of Henry A. Dreer.*

WHOEVER has a taste for fruits, flowers, or gardening should by all means visit Philadelphia and its adjoining suburbs. Within a short radius of a dozen miles, there is concentrated a wealth of vegetation, a skill in the production of fruits and vegetables, such as no other city in the country possesses ; and there is the head-quarters, as we may call it, for obtaining a practical insight into the reality of gardening, floriculture, and fruit-raising—their pleasures, their profits, and their disappointments.

Eight miles north of Philadelphia, on the eastern bank of the Delaware, is the charming little village of Riverton, whose cozy houses and elegant villas hide in and among the umbrageous trees with picturesque effect ; where the lovely lawns slope in easy grades

down to the very edge of the water itself, whose streets are so quiet that the most nervous would find a real comfort, while the abundance of shade and ornamental trees and shrubbery would delight the most intense lover of nature. Every thing convenient or beautiful seems here combined to render country life thoroughly enjoyable.

Here is located the flower-farm and nursery of Mr. Henry A. Dreer.

Mr. Dreer, like all others who have attained eminence in the same occupation, commenced business, more than thirty years ago, in a very small store on Chestnut street, Philadelphia, in a small and humble way, content to do honestly, pursue his business steadily, give, in all he sold, the very best of quality and always perfect satisfaction. Very many who start out with such golden rules of behavior lack the perseverance to follow them closely, and too frequently lean to the selfish side of their nature, and miss their mark.

But Mr. Dreer has made his mark; his seeds have always been known for their superior excellence and reliability; his store on Chestnut street, Philadelphia, directly in the most fashionable resort of the city, is one of the most prominent local places of public patronage; his circle of friends and patrons has gradually increased and extended far out into the country, and to-day we see the result in an enviable, national reputation, and an ample fortune.

His business, which for the past ten years has been increasing with amazing rapidity, at last so crowded the usual conveniences, that, in addition to the home grounds at West-Philadelphia, a farm of one hundred acres at Riverton, N. J., was found necessary to accommodate the demands of the public.

A year ago it was entirely a plain, uncultivated stretch of land; to-day it blooms with many a fair plant and fruit, and the sun shines on a prosperous establishment. At the time of purchase, Mr. Chas. P. Hayes, of Dover, Delaware, became also a partner with Mr. Dreer, and to his energy and taste the success of the farm is greatly due.

The farm is divided nearly in the centre by the Camden and Amboy Railroad, and the western half has also a fine front on the Delaware River.

Half way between the railroad and the river are the green-houses, eight in number, each one hundred feet long, and entering at the head into a large two-story building, one hundred and fourteen feet long, with ample space for office, packing-rooms, tanks, drying-rooms, and other apartments. In addition to the seed-trade—which has, of course, been one of the largest features of his business—Mr. Dreer added long ago the sale of plants, flowers, fruits, and shrubbery, but more especially every thing in the floricultural line. The demand for these plants would appear to an inexperienced person perfectly incredible, and it is a most gratifying fact as to the advance of floricultural knowledge and taste in this country to learn that the demand for this class of plants has rapidly increased yearly, and now bids fair to exceed any other branch of the horticultural trade. In Mr. Dreer's case, it is already the largest part of his business. Large quantities of plants of small fruits also are sold, and a person curious to ascertain which are the most popular varieties, and whether fruit-growing continues remunerative or not, can easily find an answer. At present, it is a significant fact that strawberry-growing has ceased to hold out such inducements of profit as it did several years ago, and many are now giving it up altogether, and replacing their ground with something else in which there is less competition.

In our tour over Mr. Dreer's place, we were especially pleased with the excellent character of the stock grown, and, *better than all*, the very foundation of the success of his business—the *art of successful packing*. Out of his large correspondence, numbering often one thousand letters per week, sometimes three hundred per day, nearly all are in terms highly commendatory of the excellent condition of the plants received, and the care in selections and packing. Large quantities are shipped to the most distant points—Texas, Salt Lake City, Missouri, California, Oregon, Arkansas, and every State in the Union.

Every plant, with the earth still clinging to it in abundance, is wrapped closely in moss, well tied, and packed in large boxes in layers with the tops of the plants facing each other; cross-bars nailed in keep the layers firmly down, and, as a result, no matter how severe may be the usage at the hands of the transportation companies, the plants still remain uninjured and undisturbed.

In New-York, where we have florists of the highest excellence, yet there are many constant customers who prefer to obtain their plants of Mr. Dreer. A range through his green-houses will interest all.

His Begonias are unusually excellent. Every one who has a place to put a pot of them should not fail of using it.

The Fuchsia, always a popular flower with the ladies, is an object of special attention, and there are many new and choice varieties—we may especially name the *Lustre*, *Starlight*, *Symbol*, and *Marksman*, as the best. The last is especially excellent, and the finest grown in the country. The sepals are of a bright carmine color, the corolla double, very full and finely expanded. The others are of varying shades, from waxy white to vivid crimson, and of most elegant habits. For a choice collection, the above are indispensable. For general use and cheap price, the *Elm City* will give the best satisfaction, having rich, crimson bells, and dwarf, compact habit. The best single fuchsia is the *Rhoderick Dhu*, while the *Rose Castile*, bluish white with purple centre, is also attractive.

The Verbenas are charming—over 30,000 have been grown the past season—the best varieties being the *Star of the Union* and *Bizarre* among the striped.

A specialty is made of Dahlias, over 15,000 being propagated, and 200 different varieties. Of these varieties, the lilliputian or dwarf dahlias are considered a great novelty, and are very desirable for *cut flowers*. This is a novel section of the dahlia family, and is distinguished by a profusion of elegant miniature blossoms, remarkable for the symmetry of their form and beauty of color.

Among the choice varieties is the new American seedling, *Defiance*—a really beautiful plant, raised by Gabriel Schmidt, of Philadelphia, who has been for a long time engaged in efforts to produce new and superior seedlings of the dahlia and other flowers. This seedling was sold to Mr. Dreer for \$100. It is a constant and profuse bloomer, dwarf habit, bright yellow and tipped with white, uniformly double and early. It can not fail to become popular.

Of the Clematis, there are over twenty varieties imported from Europe now being tested. Nearly 10,000 roses are being propagated, and it will form a special feature of the entire business.

A large space is devoted to seedling Verbenas, there being now over 800 varieties in the various beds. They have succeeded in producing several seedlings better than any verbenas known, but they are not yet named.

Of Gladiolus, there is half an acre planted, with 100 varieties and 10,000 plants.

Of Zonale Geraniums, there are nearly 100 varieties also; a large proportion are seedlings. Many of them quite fine.

Of Tuberose, there is over an acre and a half in plants alone, numbering over 100,000. This bulb is becoming exceedingly popular, and the demand is very great.

Of Peonies, there are thirty or forty varieties with names. A peony-bed or walk, with the different varieties in bloom, is a gorgeous sight; those large double flowers of every hue are unrivalled in producing a splendid floral effect.

Mr. Dreer's Pansy seed has been celebrated for many years for producing successful and brilliant flowers, and the culture of the Pansy is another specialty.

The strawberries with their different varieties were just ripening at the time of our visit, and it was right good to indulge our tastes.

Of the varieties under cultivation, a good practical idea was gained of their relative adaptiveness to field or garden cultivation.

The Wilson is still unrivalled both for healthfulness of plants, productiveness, and uniformly agreeable quality. After tasting nearly every other sort, the *Wilson* was delicious, there being a sub-acid, lively taste, quite refreshing, while the production is marvelous. It will not do to cry down the Wilson.

The Stinger Seedling is one of the very best; a large, fine berry, very good quality indeed, and fairly productive.

The Brooklyn Scarlet is not quite as large as the Stinger, but decidedly better flavor. The Philadelphia is a variety which has acquired a considerable local celebrity, is of medium size, fair quality.

The Jucunda is a poor grower, very late, and generally unprofitable. Plants of the

Jucunda put out at the same time as the Wilson were not one third as large. The Napoleon III. is highly spoken of for its growth. Its stools stand up the best, holding the fruit entirely from the ground ; bears well, but is not early.

The *Triumph of America*, a new variety not generally known, has been grown here for several years, and has qualities of rich promise. Is a large, fine berry in color, and monstrous in size, stands up well, and is very productive ; will excel the *Triomphe de Gand* both in flavor, size, and productiveness.

The Russels Prolific we can eat with a relish, and would include it among our best varieties. Is a late berry, but of splendid quality, and bears magnificently.

The Agriculturist, French's Seedling, and Jersey Scarlet are successful to a less or greater degree, according to soil and treatment, but not popular beyond the immediate locality of West-Jersey.

Of the different raspberries grown, the Clarke and Philadelphia are best. We notice that the Clarke suckers fearfully. A bed supposed to have been completely rooted out in early spring has started up thick with new shoots, and it is thought that when the plants get fairly established it will be difficult to eradicate them. It does not bear as abundantly as the Philadelphia, although its quality of fruit will bring a much higher price.

Taking all qualities into consideration, for a splendid market berry and a fruit crop, the Philadelphia is without a successful rival. Its quality is not as good as some others ; but it will *pay*, and hence will be generally grown.

Although disseminated principally by Mr. Parry, yet Mr. Dreer was really the first person to give it its name. It was found some eight years ago among some gardeners in the neighborhood of Philadelphia, who kept it close for several years, giving away only a few plants to their relatives and friends, with injunctions of strict secrecy and caution to allow none to go out. Still it did get out, and the world has been benefited thereby.

Of the different blackberries, the Wilson is considered the most profitable. Its fruit ripens early, and is all off in a few weeks. Its flavor is not the best, but it is the best market variety. The Dorchester is the earliest ; even ahead of the Wilson. The Kittatinny is the best flavored, but suckers awfully, and fruit spreads over a very long period, hence it is better adapted for gardens.

Of the vegetables grown, the *Carter's first crop* is found to be the best pea, better than the O'Rourke, and the earliest likewise ; it has every desirable characteristic for market or garden culture.

The Cassabar melon, imported from Smyrna, Asia, is a specialty, and is really splendid. They have weighed fully twenty pounds, and as to taste, a more sugary, tender-fleshed melon is hardly grown.

The Giant Wax bean has been in the market for several years, but it is such a vast improvement on other garden pole beans that it would be well for the whole country to know it. The pods are from six to nine inches long, thick and fleshy, of a pale yellow color, and waxy appearance. A peculiarity of the bean is that the pods, even when full grown, are perfectly tender, and can be used as a snap or string-bean ; is also remarkably productive.

The *Laxton's prolific long-pod pea* is unequaled as a second early pea, or for early sowing in the autumn.

The *McLean's Little Gem* is a dwarf, prolific variety, has all the sugary flavor of the late wrinkled peas, coupled with the desirable advantages of a first early variety.

It is a rule on the farm to test every variety of seed in the green-house, and from these tests every thing is rejected but those which are especially desirable for quality and good growth.

Mr. Dreer's residence at Philadelphia is in a very pretty location, with surrounding grounds of several acres planted in flowers and shrubbery. Here are eight more green-houses, and a large business is done in cut flowers. Climbing roses and choice pear-trees help fill up the beauty of the place.

We doubt not that if time will only lengthen out the years of Mr. Dreer and his partner, Mr. Hayes, and enable them to continue their experiments and good public offices, the public will become still more liberal patrons, and horticulture be immensely benefited by their labors.



The Cassaday Grape.

THE Cassaday grape originated in the garden of H. P. Cassaday, Philadelphia, Pa., as a chance seedling. The following is a correct description :

Bunch medium, very compact, sometimes shouldered ; berry medium, round, pale green, covered with white bloom ; when very ripe, its color changes to light yellow ; skin thick and leathery ; pulpy, but with a peculiar honeyed sweetness which no other grape possesses in the same degree. Ripens with the Catawba ; vine a moderate grower, a true *Labrusca* in habit and foliage, immensely productive, so much so that nearly every fruit-bud will push several branches with from three to five buds each. Nine bunches have been counted from a single eye.

This grape is one of the few exceptions in the *Labrusca* family which will flourish best on a north-eastern or a northern slope. Its leaves are subject to sun-scald on southern and south-eastern exposures.

The editor of the *Grape Culturist*, St. Louis, Mo., says :

"We have cultivated it since 1858, have found it uniformly productive, not subject to

rot or mildew; but very often the leaves would drop prematurely, and the fruit would not ripen well if grown in southern exposures. It makes an excellent white wine, which has often been taken for 'Pfälzer' or even Rhenish wine by connoisseurs.

"For deep, rich, sandy soil, with north-eastern or northern exposure, we can safely commend a trial with the Cassaday. Perhaps also for river-bottoms.

"Specific gravity of must, 80° to 96°. Wine of a beautiful golden color, of a good body, and delightful aroma. The 'Arrott' resembles this grape very much, but is not as good."

Advice to Farmers in Growing Raspberries.

PLINY the elder, who is supposed to have written his natural history about the year A. D. 45, mentions the raspberry as one of the wild brambles, which the Greeks called Idea. Palladius, a Roman agricultural writer, who flourished in the fourth century, or about 1400 years ago, mentions the raspberry as one of the cultivated fruits of his time. But like most other small fruits, very little improvement was made until within the past century, as the old gardeners depended mainly upon the wild plants, which they obtained from the woods of their own or some foreign country. Even yet, very many of the farmers and gardeners of our State are following the same practice of getting their raspberry plants from the woods.

Objections to the Culture.

I meet these men and try to sell them raspberry plants of the new varieties. "But," says one, "I don't want any of them, I have fooled away money enough upon them now; as mine all killed out last winter." I ask such a man, Sir, what variety did you have? And after a great deal of study he finds the names of several very popular foreign varieties; or it may be the name of a seedling of some of these varieties, no better than its parent. This man had never heard that those varieties must be protected in winter, unless their owner had provided a greenhouse to grow them in. Persons not having this convenience, will do well not to purchase any variety for general cultivation that needs winter protection. The next man I meet has heard about "winter protection," and says, "I will not bother with raspberries. They are more trouble than profit." The third man says, "They have spread all over my lot, and I would not take raspberry plants as a gift." I meet the neighbors of the above-mentioned persons, and they cry out, "*Humbug!*" I plead with them to read what Andrew S. Fuller and other horticulturists have written. "No. I do not care for the opinion of Fuller. I believe my neighbors in preference to any one." These and similar objections have met me often during the past three years; and they have had to be removed, or they could not be persuaded to invest in any variety of raspberry. . . .

I have endeavored to seek out a variety of the raspberry that was free from these serious defects. . . . Perhaps our pomological writers have been somewhat at fault in condemning every variety that did not come up to their standard as to quality; forgetting that a moderate supply of a medium quality of fruit, was far better than none at all. Quantity is that which gives satisfaction to the masses.

The Black Caps.

On examination I have found that all the black caps were hardy, and needed no protection in winter; also, that they did not sucker. But says the farmer, "I have black raspberries; I brought them from the woods. What better are yours?"

The black caps, like other valuable fruits in their native state, are found to have several defects, that must be remedied, before they can be pronounced worthy of general cultivation. These defects are: 1st. Small size of fruit; 2d. Dryness of the pulp; 3d. Excessive seediness; 4th. Small yield; 5th. The short and uncertain period of its bearing habit. A neighbor of mine, a few years ago, becoming interested in the culture of the raspberry, set out a large piece—I think several acres—with the common black

raspberries ; but after a time, a friend of his from near Oaks Corners, in New-York, where the Doolittle raspberry was just started, induced him to try some of those plants. After trying the Doolittle thoroughly, he dug up and threw away all of the native plants, and planted the others, thus subjecting himself to no small loss of time, labor, and money in their culture. His neighbors said he was crazy thus to throw away money, months of hard labor, and his plants, and then give his note for sixty dollars to pay for plants of the Doolittle, which they were sure were no better. But mark the result. In 1866, two years from setting out the Doolittle, he says, "I have raised one hundred and fifty bushels of the Doolittle black caps, which I have sold on an average of \$8 per bushel, wholesale, making the nice sum of twelve hundred dollars for one crop." And he adds, "There is no fruit that gives so quick and profitable returns for the labor bestowed and money invested. No fruit retains its flavor, or keeps better, when canned. It is easily and rapidly dried."

I could refer to many instances of enormous profits received from the culture of improved varieties of the black caps, but as the one mentioned took place in our state, I shall let that suffice as a practical reference. Within the last three years greater perfection in this class of raspberries has been attained.

Varieties.

Davidson's or Sinton's Thornless is the earliest in ripening its fruit. Its fruits and habits are similar to the Doolittle, with the exception of being a little earlier and free from thorns, thus making it a special favorite among ladies.

Garden ripens next in order. This is a dark red or brown berry, as if red and black were mixed. By some this is highly prized as a garden berry.

Doolittle ripens next in order. This variety has been too long before the public, to require further description.

Seneca is extremely late and very prolific. It is a decided improvement upon the Doolittle. The fruit is larger, and the canes more vigorous and productive.

Improved Miami is certainly one of the largest black raspberries in cultivation ; and the best of the Cap varieties. It may be briefly described as follows : fruit very large, dark brownish black, almost entirely covered with bloom, juicy, and sprightly in flavor ; canes very strong and vigorous, with more or less bloom, not so much as on the Seneca, but more than on the Doolittle ; spines numerous and strong, on the one year old plants, but afterward they are quite scattering ; leaves large, and deep green, with leaflets rather broad in proportion to their length. Very productive ; berries ripen some days later than the Doolittle. It is very probable that this is the same as the Mammoth Cluster. . . . I care not by what name they are called, the Improved Miami, McCormick, or Mammoth Cluster. I have five acres of them, and claim that they are the best five acres of raspberries in our State. In the *American Horticultural Annual* for 1869, Fuller says, "In 1867 I sent for the Miami, and obtained a small lot from A. M. Purdy. These plants have fruited finely this season, and from them I have taken my description of the Mammoth Cluster Raspberry."

The above are five distinct varieties, and are from the earliest to the latest known. All of them propagate from the tip of the canes, by layering in the fall. They do not sucker, and need no winter protection, nor staking, if properly trimmed ; or any more cultivation than corn.

Culture.

Any soil that will produce good corn, with deep tillage, will answer ; yet light soils should be well manured. Plow well and deep ; if sub-soiled, all the better. Prepare the ground thoroughly. Planting must be well done. Spread the roots out properly, then cover the plant about two inches and no deeper. Many persons lose their plants by neglecting this caution. We plant four feet apart in the rows, and from six to eight feet wide, and cultivate a row of corn or potatoes between them, the first year or two. In the garden they may be set closer, but the rows should be six feet apart. Cultivate with the hoe and cultivator, keeping the ground mellow and entirely free from weeds. The first season be careful not to hill up around the young plants, but keep the ground

level. If it be hilled up much, the canes will die. Do not work nearer than about eighteen inches to the hills with the cultivator, for fear of breaking the roots. Cultivate the ground as early in the spring as it may be fit. After the berries have blossomed, do not work too deep, lest you destroy the fibrous roots, that feed the forming berries.

Trimming.

The second spring after planting, the canes should be shortened to twelve or eighteen inches, according to their growth, so that they may not overbear, and also to keep the fruit from the ground. When the new wood of the second year has made a growth of three feet, it should be checked by cutting it off. The old wood should be removed each year, as soon as the fruit is gathered, and the new shortened in. After July, never cut or break any of the growing branches.

DE WOLFF.

DELAN, Wis.

Some of the New Fruits of the West.

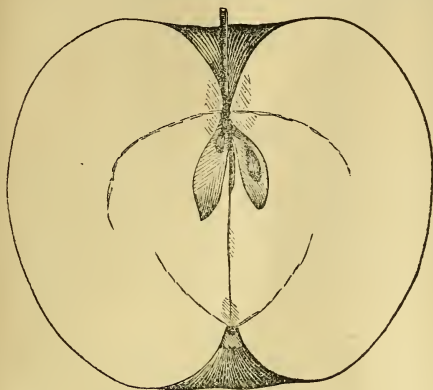
A COUNTRY like the West, where all the muscle, energy, and perseverance of the soil has centred, where men breathe upon the run—because life is not long enough to do it at a more deliberate pace—can not well afford to be left permanently behind its sister States of the Atlantic coast in any of its undertakings; and more, will not be, if persistence in the enterprise is any measure of the desire to succeed. The idea is partially suppressed that the West is not a fruit-growing country, but there are many questions yet to be considered of its ultimate perfect success before we can safely place the entire North-West upon an established level with the older States in this great agricultural production.

Of all the Western States, Michigan, I believe, has undergone the least trouble and drawback to fruit-growing from an untried climate and sorts. Its climate was milder and more salubrious, greater depths of snow in winter, and less high winds, all combined were very much in the fruit-grower's favor. The lakes surrounding the Peninsula State add very materially to its benefit; for as the winds which are born upon the prairies of Illinois and Wisconsin go sweeping across the waters of Lake Michigan, they become so softened that what is destruction upon the west shore is scarcely noticed along the eastern slope, better known as the Michigan peach country. One would hardly believe the fact that so great a change was possible; but facts are stubborn things, and with this difference before us, it was befitting the labors of all horticultural societies west of the lakes to seek not only the cause of the general failure of fruits here, but to seek to find such sorts as would withstand the vicissitudes of this climate. The results of their labors have been very satisfactory; for when all saw the necessity of the work before them, and most had learned by an expensive school of experience the fallacy of relying upon the sorts of the Eastern States for their orchards upon the prairies, their experiments made rapid progress. To what source to look for the most desired results, none could tell, but all were ready to prospect. A few looked for the realization of their hopes in the common seed-bed, but here again they found as large a proportion of tender trees as among the grafted sorts. Then the crop sorts found favor; a class of fruits which formerly were only known for ornament or desserts now take precedence, and thousands of these trees are annually sold to the farmers and gardeners of Wisconsin and Minnesota. There are now many sorts of the crab-apples, and among them many which would rank even fair for eating; this, added to their perfect hardiness and tenacity of life, makes a very large demand for the trees. It is not with seedlings alone that we have hope of our future orchards. There are many sorts here and there all over the West, planted as if by chance, and almost unknown to the world, which are by degrees being brought to light, and which are gladdening the hearts of many as they behold the luscious fruit. I send you a drawing of one such,

The Rubicon Apple,

originated in Michigan, where it is said to be very hardy, so much so as to be called by some the "oak grub variety."

Mr. L. L. Hall, horticulturist of Van Buren Co., Mich., says he has over one hundred varieties in cultivation, and



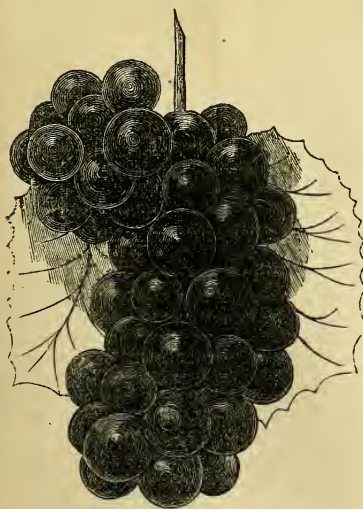
thinks the Rubicon the most hardy of any, and has no doubt but that it will stand our climate, and be a great acquisition to our fruit. In a letter from Mr. Hall, in March last, he says, "It is bound to be the leading market apple of the West. It is the most beautiful and long-keeping apple in cultivation. It keeps until July and August. It is a smooth, scarlet-red apple, about the size of the Baldwin, but every way superior in quality."

These good traits of quality and hardiness are confirmed for it when tried in Minnesota and Wisconsin, and I trust that a wider and more extensive acquaintance with it over a larger and more varied portion of

our State will reconfirm all that has been said of it, and, if so, too much praise can not be given to I. Gould, of Beaverdam, Wisconsin, for exhibiting the fruit at the State horticultural annual meeting, and thus bringing it to the notice of our fruit-growers. Also worthy of notice and further trial is the

Janesville Grape,

originated with F. W. Loudon, of Janesville, Wisconsin, from seed saved at the Rock County fair, in 1858, fruiting the third year from the seed. The vine is healthy, perfectly hardy, of strong luxuriant growth, and very productive, ripening about the middle of August; bunches medium, compact, and shouldered; berries large, round, black, covered with a light bloom; flavor sprightly, not very rich; fair, but not first-rate; producing a first-rate red wine, (not quite equal to the best European grape, as is claimed for most new candidates,) but possessing characteristics greatly surpassing many of the kinds now in cultivation; enduring the severe cold of the past seven winters without protection, bearing abundantly each year. A grape ripening in August and enduring our winters can not fail to be an acquisition to our list of hardy grapes, although it may rank as second quality. The cut is from a photograph of a bunch one third size. This grape is now in the hands of C. H. Greenman, of Milton, Wis. Mr. G. is a modest man, and hence is not pushing his grape upon the public by an undue amount of advertising, but rather placing it before the public, trusting that its merits will win for it golden laurels. The State Society offered a premium for the best



seedling grape, fruit to be shown for three successive years. At the fall exhibition of 1868, the premium was awarded to the Janesville, as the best and worthy of cultivation, and christened by the president as the "Janesville," from the city of its origin.

MADISON, WIS.

O. S. WILLEY.

Raising Fruits vs. Raising Plants.

FROM one cause and another, probably three fourths of those who embark in fruit-culture fail to realize those great profits which they were led to anticipate. This is especially true of those who engage in the culture of *small* fruits. One cause of failure, which I purpose to consider in this article, is the attempt to "kill two birds with one stone," by selling a crop of *plants* and then a crop of *fruit* from the same ground, in one season. It is a truth in vegetable physiology, attested by both *science* and experience, that a tree or plant can not, in the same season, do its best in producing fruit and in vegetable growth.

Take, for instance, the strawberry. It is well known that to produce a maximum crop of fruit, the tendency of the plant to multiply plants must be counteracted by pinching off runners, and directing all its energies to forming fruit stools. The next largest crop is obtained by allowing young plants to grow and bear fruit. The smallest crop is realized by allowing the plants to multiply at pleasure, and digging up the increase. With a few exceptions, it is doubtful whether as much net profit is received from the sale of both plants and fruit as would be by directing all the energies of the producer to the growth and sale of fruit. The exceptions are—first, *popular*, new varieties.

Sometimes when a promising, new variety is introduced, the demand for plants, at high prices, will continue for several years, and then, of course, the sale of plants will pay better than the sale of fruit. But those seeking to profit by propagating new sorts generally pay out a great deal of money for varieties that prove worthless and never return first cost. Another exception—those who have established a reputation as reliable nurserymen, by long and persistent efforts, and large outlays in advertising, propagating, etc. Such men may have very large sales, and realize a greater profit than they could from fruit.

The public have been so often swindled by unknown nurserymen selling plants not true to name, or dug and packed in such a way as to be nearly worthless, that they are becoming distrustful of strangers, preferring to patronize old and responsible firms. Nurserymen of this class will make money selling plants, while the novice would spend a fortune in acquiring a reputation and building up a good trade.

Occasionally one with a reputation as a writer on horticultural subjects may engage in nursery business, and establish a trade at once.

Many may be willing to concede that the yield of strawberries is lessened by the sale of plants who would contend that raspberries and blackberries are no less fruitful from raising their plants. Is such the fact? Red raspberries and blackberries, being propagated from sprouts, certainly lose much of the strength of the soil that goes to the nutrition of the young plants. The only way this drain upon the soil can be prevented is by resolutely cutting up the young sprouts upon their first appearance, the same as if they were weeds.

As for the black-cap raspberries, which are propagated by burying the tips of the canes so that they will root, I doubt whether we realize much over half a crop of fruit when we raise a *full* crop of plants. In the first place, our manner of summer pruning is not calculated to encourage fruitfulness; in the second place, thorough autumn cultivation is rendered impossible; and, in the third place, bending down the canes for the purpose of layering them destroys many.

Were my advice asked by a beginner in fruit-culture, I would reply: Plant no more ground than you can put in good condition—rich, mellow, clean, and dry—and devote all your energies to producing large crops of superior fruits. Gather them when in best condition, assort and pack in attractive packages, giving honest measure, ship to the best paying markets where *good* fruit is appreciated, and I am much mistaken if your profits are not larger than you could realize by attempting to “kill two birds with one stone”—in selling both plants and fruit.

P. C. REYNOLDS.

ROCHESTER, N. Y.

The Alton Large Nutmeg Melon.

Read at the April Meeting of the Alton Horticultural Society.

BY O. L. BARLER, UPPER ALTON, ILL.

WE have had frequent solicitations from parties in high places in the horticultural world to write more about the “going to be famous Alton Nutmeg Melon.”

The publishers of our horticultural magazines and agricultural papers have respectfully requested a full history, and minute description and particulars as to cultivation.

We have replied by sending them a package of the seed, with the request that they give the melon a fair trial, and report next summer. In a few instances we have furnished for publication articles bearing particularly upon the growth and cultivation of the melon, knowing full well that if only *one* man fails out of the five thousand persons who have received the seed of the “Alton nutmeg,” we shall receive any thing but “blessings on our head.”

It is evident from the wide distribution of seed made, and the character of those who have received it, that the melon is destined to undergo a *trial* such as never before, perhaps, befell a vegetable, or *fruit*, rather. Not to mention the leading horticulturists of our own State who have received it, we may name Pres. Marshall P. Wilder, Mass.; Dr. John A. Warder, Ohio; Orange Judd, New-York; David Landreth, Pa.; J. J. H. Gregory, Marblehead, Mass.; Tilton, of Boston; Thomas, of Cincinnati, and a hundred others of equal note.

Now, it would be a wonderful coincidence if all parties succeeded equally well in all climates, and on all soils, in growing these melons fully up to the standard.

Some, from causes outside the melon, may fail; but that the majority, with care in selecting the soil and good cultivation, will be successful, we have every reason to believe.

We are confident that, with the ordinary blessings of Providence, we shall grow finer melons this season than ever before. The melon has been grown in Alton for three summers, and has steadily improved in our hands. Where it was grown *before this*, nobody seems to know.

The seed was originally obtained from a fine specimen of a melon bought in Missouri, four years ago. Last season, only two parties—one in Texas and one in Southern Illinois—received the seed, and that a very small package. Both these parties made a favorable report. The seed is now having its first general distribution, the stock of which is nearly exhausted.

To the question, “Is it a new variety?” we can only answer, *So far as we know*, it is. We can not purchase in any of the stores seeds that grow such melons; and Chicago says, after eating of them for two years, “The like was never in our market before.” Likewise say they all.

In the *cultivation* we have no secrets. We prefer a light, dry, warm soil, with a good sprinkle of sand; would use fertilizers, guano, super-phosphate, or well-rotted barn-yard manure; the melon will appreciate good treatment. But nothing is more important than a thorough preparation of the soil. We would plow, roll, harrow, and then plow and harrow again. Let the plowing be deep—unless the soil is very shallow—and the pulverization nicely done. The melon will be sweeter and better in a dry season than in a wet one. It will even stand a pretty severe drought.

We commence planting about the first of May. It is useless to plant before the ground is warm. The seeds will rot. The cultivation must be, of course, *complete and thorough*, for how else can you grow any good thing?

We recommend pinching the vine, if it is done *early*—that is, when the runner first begins to make its appearance—when it is no longer than your finger. This will develop the fruit buds, and give you larger and earlier fruit.

We ship in crates holding $2\frac{3}{4}$ bushels, made of head-pieces two feet long by one foot wide, on which is nailed lath cut in two; cost fifteen cents.

Our melons are picked when fully ripe, and shipped to Chicago, a distance of nearly three hundred miles, and are oftentimes again reshipped to more distant towns, and reach their destination in good order. One good quality, and a prominent one too, of the melon is, that it *ships well*.

Cut Flowers.

BY ANNE G. HALE.

A LOVING care for flowers and a quiet contemplation of their varied beauties tend so readily to elevation and refinement of character that no dwelling should be considered properly furnished till baskets and pots filled with flowering plants are arranged in and about its sunny corners and windows, or a stand occupied by the same is placed within reach and sight. And, besides these conveniences for keeping plants in our homes and for promoting their growth there, flowers detached from the parent stem—the treasures of the garden and the conservatory, as also the “floral apostles,” as Horace Smith calls them, of the meadow—should be often near at hand—at times *in hand*, to receive the admiration and attention which they deserve. But plants are of such delicate structure, flowering plants particularly, and their tissues are so finely finished, that they require tender and careful treatment; when they are handled, let it be with gentleness, always.

Buds, blossoms, and seed-vessels should be kept from contact with all rough substances, for merely a slight abrasion of the cuticle seriously mars their beauty and sometimes prevents healthy growth. Neither branches, leaves, flowers, nor buds should be torn or broken from the stems, as is the prevailing practice.

Tearing and breaking not only give an untidy appearance, but the sap, which always rises to the end of every branch, flows to waste by such unnatural outlets, and is thereby drained too fast from its other channels, so that the remaining portions of the plant are made scanty of their supply.

For these reasons, when gathering flowers, use a pair of sharp shears; a knife is better, especially for woody plants—roses, camellias, spireas, deutzias, fuchsias, and the like.

If you wish to sever a spray of blossoms or leaves, hold the stem to be removed in the left hand, and at the back of the stem set the knife (held in the right hand) and cut in a slanting direction downward. If the spray springs from the head of the stalk, cut it as close as possible to the shoot next below it; if it be a side branch, cut it cleanly to the main stalk. Then there will be no outflow of the sap, no rough and withering sticks protruding their unsightly presence above sickly foliage and meagre blossoms;

but, on the contrary, a symmetrical growth of verdure and florescence. Use the same method in removing a solitary flower or bud.

Some plants put forth so many flower-buds that they interfere with each other's development. In such cases, it is well to take away a few, that the rest may gain strength and beauty; those who have never practiced this mode for improving the bloom can scarcely be made to believe its efficacy. Cut these off in the manner mentioned above, and with proper management most of them will expand as handsomely as if allowed to remain on the plant. In making a bouquet, seek always for these first, for half-blown or even closed buds add greatly to the loveliness of any group. What would a rose be without its buds? Is it not more charming, has it not a tenderer grace, when only partly unfolded than when widely expanded? [A paragraph has been lately going the rounds of the press to the effect that rosebuds may be kept any length of time in their primal freshness by dipping the ends of their stems in wax, and then sealing them away from light and air in small cones of clean white paper; and that these buds, whenever restored to freedom, will renew and perfect their lives. So simple a process merits a trial.]

One great drawback to our enjoyment of cut flowers is the quickness with which they decay. But, short as are the lives of most blossoms, the brightness and beauty of many are prolonged by their removal from the full power of the sun and too active breezes to the more temperate and quiet air of the house. The chief trouble is, that in this new situation they may not be provided with proper and sufficient nutriment. Air and water are the only means of conveying to them the gases upon which they flourish; and whether overfed or stinted, the result is the same—they languish and die.

Some persons suppose that the only way to preserve the freshness of cut flowers is to put their stems in water. So, filling a deep vase till the water reaches their petals, they crowd them in; believing they have done their duty by them, when, in addition, they set the vase where it can be admired. But they make a great mistake if they have been content with well or aqueduct water, and cold at that, and every flower is pinioned tightly to its neighbor—be it leaf or bud—and every stalk pressed closely to the base of the vessel. The probability is, that, with such management, before twenty-four hours have elapsed, the poor things, instead of cheering us with their loveliness and purifying and perfuming the atmosphere of home with their odoriferous breath, will have ceased struggling for existence, and have become objects of aversion and disgust.

The moisture furnished cut flowers should be *rain-water*, always of a moderate temperature, about blood-warmth. The water should not be changed, but every morning its evaporation supplied with more of the same temperature; to which, after a few days, a little *aqua ammonia*—five drops to half a pint of water—may be added. It is well to place at the bottom of the dish or vase a layer of broken charcoal, about half an inch in depth—pieces about the size of small beans. In placing the flowers, let them have as much room as they need to show themselves naturally. At the expiration of a week, the stems should be examined, all decayed matter rubbed from them with a piece of flannel, and the tip of each end cleanly cut; and if any leaves or blossoms begin to look withered, those also should be cut away.

Flowers decay much sooner when tied in bunches or bouquets than when arranged loosely. Too little air and too much water are the bane of most species. There ought to be a free current of the former around each spray or separate large flower, while the latter should not come above the calyx of any bloom; better be an inch or more below it. With most hardy plants, even if very long stemmed, two inches immersion will give water enough if they have plenty of air.

Branchlets of flowering shrubs and stalks of the lily tribe can be advantageously arranged in water held in deep vases in the manner just mentioned; but for a collection of the various orders, I prefer a perforated cover, (have used even the flat steamer of a dinner-boiler, but wish the "workers in clay" would provide for the necks of vases and flower-dishes plates similar to those prepared for drainers to soap-dishes.) This rests upon the top of the vessel, and through its holes the stems can be passed to the water beneath without fear of too deep immersion, as, either by its leaves, or bud-stems, or stalks of surrounding greenery, each flower is lightly supported above the cover, which

is hidden by the foliage hanging gracefully around. When water is to be supplied, the cover is raised without disturbing the stems.

For short-stemmed flowers, a mixture of damp sand and powdered charcoal, in equal proportions, answers very well ; but care must be taken that the dish does not get too dry ; so also do baskets of creeping moss, in which they may be placed with fine effect ; still the moss gets dry so soon that the flowers fare better if a saucer is hidden below, partly filled with water, which they can reach with the tips of their stems.

The prettiest and best arrangement for keeping cut flowers in beauty is a dish of velvet moss saturated with rain-water. When this moss is brought from the woods, if a few fronds of fern, especially those of the delicate maiden-hair, are taken with it, and suffered to form a part of the foliage of the group, you will find them a charming addition. Place the flower-stems sparsely among the moss, and here and there a branchlet of green or a leaf. Just inside the edge of the dish pour a very little water twice a week ; and when any of the collection show signs of decay, remove them, and fill their places with fresh specimens ; thus the dish may be kept filled with bloom and beauty for months.

Small bouquets for the hand soon fade if no effort is made to give them moisture ; but a wrapping of a bit of wet cotton-batting or a few wet threads of candle-wicking, fastened lightly about the ends of the stems, will suffice to keep them in good condition several hours in a close, hot atmosphere. Those who do not like the formality of a bouquet-holder, which this plan necessitates, can take a small vial—such as are used to hold medicine of homeopathsists—partly fill it with water, and place the flower-stems therein ; and then cover the vial by tying a ribbon around it, just as they would the bare stems of a nosegay. Flowers used in decorating the hair and the dress can be kept bright and fresh in the same way.

If flowers are to be transported any distance after they are cut, they should be placed carefully in a tight box or case. If the box is not perfectly air-tight, furnish it with a layer of damp moss or cotton-batting.

When going for wild flowers, carry a tightly closing tin box, in which is a piece of wet, coarse sponge, and a basket. The smaller flowers are to be shut in the box. The sponge is laid in the bottom of the basket, and the stems of the larger flowers inserted in its pores. By so doing, even the most delicate can be brought home without withering.

Handsome wall-decorations may be made by cutting long branches of ivy, clematis, woodbine, honeysuckle, or climbing roses, inserting a few inches of their stem in a bottle of rain-water, and hanging the bottle behind a picture or a mirror, over and about which the flowers will bloom and the foliage flourish for many weeks, to the admiration of all beholders.

• The beauty of so many flowers—hot-house flowers especially—is tarnished by sprinkling. When they are drooping, it is best to try first a change to a cooler or a more airy department, and a double portion of ammonia added to their water ; this frequently revives them very quickly.

How dreary the world would be without its blossoms ! What benedictions of peace they hold in their quiet hands for the cares and perplexities of our feverish existence ! How many weary hours are beguiled, how many sad moments cheered by their gentle presence ! And yet with many, the regard for these “jewels of the sod” rises no higher than to cause them to snatch from its slender stalk every blossom that comes in their way, merely to gaze on its beauty or to inhale its fragrance one instant, to fling it aside the next, despoiled and dying. Still this slight interest is not to be despised ; for there will come a moment when the extreme loveliness or the singularity of some flowering plant shall force itself upon their notice, and they become like persons awaking to the possession of a new sense, which, in time of sickness and sorrow, will lead them to acknowledge the sweet influence of the flowers, and, even when walking in the shadow of death, to accept their teachings of humility and patience.



Unsuccessful Fruit-Growers.

WE are glad to see the evidences of the extension of fruit culture generally throughout the country, and there is no doubt that it will continue to increase year after year. But the fact is not to be denied that large numbers of beginners prove very unsuccessful, and never realize their high anticipations. Led on by occasional reports of local successes on small patches of ground, they imagine that the same rate can be realized anywhere on a much larger area, and one or two years are sufficient to make them rich, and pay off all indebtedness. This is a very erroneous idea, and the sooner exposed the better. No branch of fruit culture will prove immediately profitable; no grower ever realizes his first anticipations, and no cultivator can depend upon the same production or income year after year. No one can afford to do without ample capital, and no other business requires so much capital in proportion to the surface cultivated. The sooner beginners understand these facts also the better.

Probably unsuccessful cultivators can find their ill-luck comes from a negligence of one or more of the above causes as well as others we may name. Many are totally ignorant of the adaptation of different varieties of fruit to different soils, and hence are apt to make their selections in a hasty, careless manner, and, as a result, after a year's experience and lost time, find that they are unable to raise fruit successfully on their soil. They neglect to experiment with other varieties to see what *will* grow well, and the result is, that they are left in blind ignorance to commence the strife once more; others plant out any thing or every thing but those kinds most popular in the market, and very few know how to take care of a tree properly after it has been set out. We heard once of a man who was asked if he grew strawberries, and answered that he did; but when inquiry was made as to the variety, he said that he could not tell—all he knew was, that *they called it a strawberry, and he did not care what kind*. What a lovely individual he is to grow fruits for a living! There are plenty that do not know an apricot from a plum, or a nectarine from a peach, and, if planting out varieties of either, are completely in the dark as to a good selection.

Is it strange, then, that so many fail?

It will be generally found that those most unsuccessful in fruit culture do not take any horticultural journal whatever, and consider it money illy spent. A single item in a good journal as to the choice of fruits might save them years of countless trouble and mortification, but they are loth to appreciate. The world generally will be glad to get rid of them, and see their places filled with a more interesting and active race. To teach such wisdom is like throwing pearls before swine.

The Mexican Ever-bearing Strawberry.

WE regret to see the extent to which this humbug has caught hold of many of our Western journals and fruit-growers. It possesses very little merit, is nothing more than the old Red Alpine, which has been known for over three hundred years, and appeared here several years ago under the name of the Maximilian. Few or none of the names attached to the certificates are persons of any horticultural reputation, and even if the fruit were ever-bearing, it would be of little use for aught else than as a novelty.

It is useless for publishers to say that they have no responsibility over their advertising columns. We say that if a publisher prints an indecent advertisement, he is the proper subject for censure, as committing an offense against the morals of society; and if, for the sake of a good fat advertising contract, he allows other parties of little or no responsibility to gull his readers out of a few dollars apiece for something as yet of untried merit, and then, in addition, editorially indorses it, when he virtually knows little or nothing about it, we think he is almost as bad as the thief himself. It is not necessary in all cases for a publisher to guarantee that all the advertisements in his journal are perfectly truthful and reliable, nor to decline advertising

from respectable and responsible parties; but when something unusual appears, he should consider the wishes of his readers by satisfying himself of their reliability. Rural journals are admitted nowadays to be the very best advertising mediums of the country, because the advertisements are read regularly with as much interest as the literary matter. But public confidence gradually gets weakened in any journal where it is abused by the insertion of paid matter of doubtful character.

There are very few journals that are able to refuse large advertisements; human nature is weak, and journalism needs money to grease the printing wheels; so conscience is laid on the shelf for a little while, to be taken down again at a more convenient season. These things ought not so to be.

In addition to what we have heretofore exposed concerning this berry, we now close our remarks with the quotation of a correspondent who has grown the plant, and is well able to judge: "I cultivated it two or three years by the side of several other varieties, and consider it inferior to any other I have raised. It is a very poor yielder. I do not think, with any ordinary culture, it would yield a quart to the square rod during the whole summer. The fruit is very hard, small, and seedy. From the flaming advertisements of this berry many will be induced to invest, even at the price of \$3.00 per dozen plants, but it is nothing but a humbug—the *most inferior berry I ever saw*. In Mexico it may be very good, but Mexico and Wisconsin are two quite different places. I have one or two thousand plants, which, at \$3.00 per dozen, would amount to several hundred dollars; but I will take, in round numbers, \$0.01 per thousand—provided purchasers do not bother me to dig them."

Making Home Pleasant.

CHARLES D. COPELAND, of Lima, N. Y., writes to the *Evangelist* a sensible article on the beautifying of the homestead: "Housekeepers should never rest until home, hallowed by piety and virtue, is made the abode of contentment and delight; which husbands will enjoy as a sanctuary of rest, and children prefer as a place of recreation, rather than seek enjoyment in company that is vicious and ruinous. To this end, among other things, a fine flower-garden is an indispensable appendage. In forming one,

1. Shape the beds tastefully.
2. Have the soil made rich and mellow.
3. Procure plants and seeds, the flowers of which are showy, and that are a long time in a blossoming stage—such as perpetual hybrid roses and altheas for shrubs; and for annuals, the astor, anterrhinum balsam, dianthus, pansy, phlox, petunia, verbena, portulaca, larkspur, salpiglossis, zinnia, and everlasting flowers.
4. Sow the seeds either under glass early for transplanting or in open beds, about the time of planting for early garden sauce.
5. Cover the seeds, especially those that are small, not more than one-eighth of an inch deep, sifting on very fine earth.
6. Keep the ground moist, but not soaking wet, by sprinkling on water just before evening.
7. Transplant a part when they come up thick. They blossom earlier and more perfectly when standing thin and growing stocky.
8. Select a few of the best plants to ripen seed, which should be gathered early for use next year.
9. When the first fine show of flowers is past, cut back the plants, removing from the top about one third the length, and most of the varieties will throw out new branches, yielding a second crop of flowers.

10. Let the children of the family take part in their cultivation, and it will improve their health, refine their sensibilities, and create within them a love for home and home enjoyments.

In procuring fruit-plants, a few only, and those of the best varieties, some of which are very early and others late in fruiting, should be sought for, namely such as the Cherry, Victoria, and white grape currants; the Philadelphia, Doolittle, Davison's, Thornless, and Mammoth Cluster raspberries, for summer fruiting; and for autumn, the Catawissa and Lum's Ever-bearing; for blackberries, the Kittatunny, Early Wilson, and Missouri Mammoth; for quinces, the true Orange; and for strawberries, the Wilson's Albany is the best adapted to all localities so far as tested.

At a small expense, these may be grown, and by doing up the fruit in cans, jellies, jams, and preserves, they supply in their fresh and preserved state a luxury the year round, both for the table and sick-room. Happy the housekeeper that has a garden of fruits, a yard of flowers, a husband that loves his home, and surrounding family that looks to her as the centre of domestic bliss.

Destruction of Shade-Trees by Gas.

WE fear that by the introduction of gas into all our large villages, while being a convenience

and an apparent necessity on the one hand, there will be a deep and almost irreparable injury committed on the other by the pernicious, destructive influence on the shade-trees. Go where we will, in any part of the country, wherever the villages are lighted with gas to any large extent the shade-trees suffer greatly, and are sickly and diseased. This is especially the case with the American elm, the pride of many a village street, but peculiarly sensible to the escaping fumes of the gas.

In New-Haven, Ct., great complaint has been made of the injurious effects of the gas, and yet the latter can not be given up, can not be spared; and still it is hard to miss those noble old trees, or to see them withered and succumbing quietly and gradually to the influence of some stealthy destroyer. How shall we proceed? Shall we allow these dying trees to be a continual eye-sore to us, or shall we cut them down? If the latter, what shall we plant in their place, and can we afford to wait ten or fifteen years for a new and vigorous growth of trees of right size?

Society is still unable to answer the question, and patiently waits an issue. The Boston *Journal of Chemistry* takes up the subject, and argues in this manner:

"Many a city and town has had to deplore the loss of fine shade-trees, by carbureted hydrogen gas coming in contact with their roots, and poisoning them by being absorbed. There is a strange instinct in the roots of plants or trees. As if they had eyes to see, they bend and stretch in the direction from which they can derive nutriment; and wherever they can have free and easy access to the soil and find food, there the number and thickness of the filaments are augmented. If we plant a tree in hard, unyielding soil, it will struggle most wonderfully to sustain itself, by pushing its roots through the packed earth. If, under these circumstances, a trench is dug ten or even twenty feet from the tree, filling back the loosened earth again into it, the roots appear to be cognizant of the fact, and commence a struggle with the impacted soil to reach the trench; and this fact explains how it is that the roots of trees are destroyed by gas. The trees upon the sides of streets are placed in hard soil, and when the trench is dug for the gas-pipes, and the earth returned, the roots instinctively push for the trench as a point of relief, or where food can be more easily secured. We have seen gas-pipes, after having lain for several years, perfectly covered with a network of roots proceeding from the neighboring trees. Now, if there is the slightest leak in the line of pipe, the gas moves in the direction of least resistance, and that is along the trench in which is placed the pipe; hence the tender spongioses are presented with strange and poisonous food, the gas is absorbed, and the tree dies.

"We can hardly suggest a remedy for this great evil. It may be well to compel gas companies to cover their pipes in the vicinity of trees with a thick coating of cement, or plank the walls of the trench so as to prevent the tree-roots from passing through. The loss of fine shade-trees in cities and towns is almost irreparable, and every practical means should be adopted to prevent it."

A Floral Novelty.

THE freaks of fashion are sometimes unaccountable, sometimes charming, but more often not. The following is reported the latest "style" in the use of flowers in Paris, the gay French metropolis:

"A novelty has been introduced at social parties in Paris. At the entrance of the saloon is placed a large covered basket containing small bouquets of flowers, and presided over by a modern Flora. Each guest plunges his or her hand into the basket and takes a posy, which the women attach to their dress or put in their hair, and the gentlemen place in their button-hole. The latter promenade through the saloons, each in search of a lady wearing a similar bouquet to his own; and when she is found he has a right to take possession of her, and retain her as a partner."

Growing Small Fruits near Inland Towns.

A VERY large proportion of our inland towns and villages, located on the lines of railroad travel, are obliged to depend upon the larger cities for the adequate supply of early fruits, and berries, and vegetables. Is this at all reasonable? Can they not be as well and more cheaply secured by proper home production, and should not fair encouragement be offered to cultivators in the immediate neighborhood?

We are glad to see that the consumption of fruit in all our large cities is yearly on the increase, and that the production is also as rapidly increasing; but where strawberries can be grown and sold at an inland village for fifteen cents per quart, with fair profit, is it at all prudent to depend upon New-York, Boston, Philadelphia, or Chicago for adequate supplies, and necessitate prices as high as twenty-five cents per quart?

There are manifest advantages in favor of the smaller towns, which need only to be pointed out to be appreciated.

1st. The fruit is *fresh*, neat, and clean, and not spoiled by a long and unsafe shipment of one hundred or more miles by rail.

2d. The fruit is cheap; for no fruit can be shipped long distances without great danger of

loss and decay, and the price realized must necessarily be high enough to cover all risks, cost of transportation, and still allow a fair profit.

3d. By growing fruit near a home market, there will be an increased demand. To an extent already too widely known, the poorer classes are unable to treat themselves to the use of fruit on their tables, because the price is far beyond their reach; but with cheapened fruits, the poor will begin their use, the rich will buy and consume more freely, and many a festival, or public gathering, or social entertainment will use in larger quantities and in more frequent opportunities than at present. Wherever the taste for fruit has once been formed and indulged in by any one, rich or poor, it never leaves the individual; he will lose no opportunity or price to gratify it, and will increase his expenditures for this purpose year after year.

Every one who has a garden should grow small fruit, but they do not, and never will; very few have the patience or right knowledge to treat a bed or row of vines well, and it is apparent that all kinds of fruit-growing will ultimately pass into the hands of those who will devote their entire time to fruit-growing as a profession and do nothing else. In this way, fruit-growing as a specialty will be developed into a steady, permanent, paying occupation, and both grower and consumer will find cause for congratulation in the fact that the fruit produced is of far better quality and cheaper price than the average run of cultivators or consumers could do it for themselves.

A village which now consumes less than \$300 worth of fruit in a season may be so well influenced with the importance of raising and using fruit more freely, that in a short time the value of fruit products may be increased to three or four thousand dollars.

A grower who can obtain fifteen cents per quart for home-grown berries, and for all he can raise well, is really the possessor of a business requiring a less capital and yet yielding a better profit yearly than one who grows for the large cities, and occasionally obtains his twenty-five cents per quart, but more often is obliged to take less and counts himself lucky at the end of a season, after counting up expenses, to find that he has got ten cents per quart profit.

To those who hope to initiate the business of growing fruits for small markets, it is good advice to give, do not commence large, but develop the trade gradually, and increase the production yearly. Thus there will never be a glut, and prices will be more uniformly profitable.

Fowls in Orchards.

WE gave not long since many instances of success in allowing *hogs* the full range of orchards; but we know that there are often quite as great benefits accrue by allowing poultry the free range of the orchard also. Their natural habits leading to the destruction of insects, it requires very little argument to prove that the presence of a large flock in an orchard will assist in catching an immense number of worms that otherwise might prove an injury. A correspondent of one of our exchanges furnishes his experience on the subject:

"Let any one try them in an orchard of a quarter of an acre, where they may be kept by a picket-fence four or five feet high, putting in, say one hundred and twenty-five fowls, and observe the result. He will avoid the annoyance in the garden of which so many complain, while they will work among the trees, doing just what is needed, keeping the ground well cultivated, and destroying every thing that can injure the fruit-trees in the shape of bugs, worms, or other insects, and lay a large number of eggs, which are a cash article, to say nothing of the chickens, which pay well for raising at the present time. I have tried it, and know it is so. I have about one hundred fowls, which have worked admirably among my trees, keeping the ground in good condition, keeping off the insects, and promoting the growth of the orchard."

The correspondent is right in his conclusions that "the public have yet to learn the full value of keeping poultry for this purpose;" for after all, although the assertion is often made that it is impossible to grow plums or apricots for market, yet the fact that in yards where poultry or hogs are kept the trees are free from insects and produce abundant crops does not seem to have that practical convincing effect which it ought. Farmers may see the benefit before their own eyes, yet are very slow in adopting it.

City Farmers.

IT is quite laughable sometimes to see how "city farmers" manage things. Our office overlooks the City Hall Park, where for three years "*the city fathers*" have attempted the rôle of city farmers in trying to produce a grassy lawn in the numerous inclosures which there abound—but *such* a lawn or grass-plat would astonish a landscape gardener. During the entire winter, carts are kept passing back and forth hauling street-dirt and manure upon these inclosures, often filling, together with the frozen snow, a space as high as the chains; and then in the spring comes the leveling, and beating, and spreading, and raking, and finally the grass begins to grow, but in dirty clumps or hillocks, mixed with weeds or broad-leaved greens, and when mowing-time comes there is nearly as much bare earth to be seen as grass. It is another amusing sight to see a troupe of a dozen able-bodied men swinging the scythe in awkward style,

or clipping around the posts with a hand-reaper, and spending two days over a little less than two acres, with as much deliberation as a judge in penning a sentence—evidently they are bent on “*making time*.” There might be made in these inclosures as pretty little lawns of simple natural beauty as one would love to see; but as now managed, the entire affair is a miserable botch, and always will be until some green country lad is allowed his way there for a little while to show “city farmers” how to “grow grass.”

Beautify your Home.

WE noticed lately a little paragraph floating around on the sea of literature, which is really so sweet and delicate in its sentiment that we can not refuse it a place in our portfolio :

“There are two kinds of beauty—one is outward, the other is inward. The outward beauty of home is in pleasant grounds, walks, shrubbery, flowers, trees, rooms, furniture, pictures, and whatsoever can render it agreeable to the eye, and suggest happy and virtuous thoughts to the mind. Of this kind of beauty, we should have much in and about our houses. A vine-arbor, a flower-bed, a grass-plat, a rose-bush, a gravel-walk, a shade-tree, a pleasant yard, are easily had, especially by farmers and villagers. No one with hands and health should be without such adornments to his home. A child even can plant a flower-seed or a shrub; and, if properly taught and encouraged, will be glad to engage in such pleasant labors. In odd morning and evening hours, how much may be done to beautify one's home. If every week adds a little, and every year *more*, how *much* will be done in and about one's dwelling to give it an air of cheerful beauty. And of all beauty, that which is natural is most to be admired—such as grows, bears, and blossoms.”

That last paragraph expresses our mind exactly—the inward ornaments and beauty of home, in the shape of pictures, carpets, and furniture, are but slight in comparison with a beauty without, which grows, and unfolds its flowers or leaves, and buds, and blossoms, and bears fruit so quietly and in such exquisite taste that no creation of inner beauty bears comparison with the gifts of nature. Give us, then, flowers and fruits, to help out more fully our inner enjoyments of literary life and pleasures.

Trying Experiments.

MAKING experiments is usually a costly and unsatisfactory proceeding, but really we do not see how one can afford to do without a little of this sort, and in fact in many cases it is an absolute necessity.

Here is a man who has just bought a farm in a region where there have been very few improvements, and very little attention paid to progress in agriculture and horticulture. His first thought is, to look around and inquire whether the varieties of grain, vegetables, or fruit that did well on his old farm will do well on the new one; and as no one seems able to answer the question but himself, he must plant them, run the risks, and learn from experience, and it takes generally three years of such experiments to set himself finally right.

It is the same in fruit-culture. The variety of pear or apple that does well on the side of a hill will fail in a valley, or will do well in one place and yet fail a dozen miles away. Soils vary also as well as climate; and a grower who begins fruit-culture has almost always to try a large number of varieties, in order to become fully satisfied of the relative profit on his own particular place. His farm has a portion of it filled up with specimens of vines or trees which ultimately yield no fruit, and only cumber the ground—yet are a benefit because a guide to others.

Hence, we believe in the utility of experiments, and also in local horticultural societies, where individual successes and failures are reported, and where the tests of varieties in every neighborhood become known.

There's many a friend of ours who spends fifty or a hundred dollars a year on experiments, and generally it proves a loss in money; but every now and then something of genuine worth turns up that amply compensates for all past losses, and the balance is restored again.

Here is a patient florist, who for years has been trying to produce a beautiful dahlia, or geranium, or rose, and amid his thousands of seedlings or hybrids not one in each year comes up to his expectations; but at last, by some lucky chance, the long-desired is found, and the originator is rewarded with adequate honor for his patient trials. Horticulture owes its successes to experiments; hence we say, keep on experimenting, and when something really good is attained, give it to the world for use and benefit.

Horticulture would be far more popular, and far in advance of its present stage, if its lovers would only make more judicious experiments, and communicate them in all cases to horticultural journals for publication.

Small Farms vs. Large Farms.

IT has been quite fashionable in late years to cry down large farms, and recommend that a more thorough system of culture be applied over a much smaller surface—that is, to adopt small farms. This is correct as far as it goes; but to recommend small farms for fruit-culture and

gardening, of but three to ten acres, as amply sufficient to occupy the time and energies of the cultivator, and yielding an ample profit, is not always a judicious policy. Were we asked by an amateur about purchasing a small farm our candid advice as to its successful management, we would reply:

1st. Do not buy too small a farm, nor plant it all out in fruits.

2d. Leave enough space to grow other crops for home support or sale.

3d. Allow sufficient room for the production of grass and hay, to produce an *abundance of manure*.

Money is almost always illy spent in purchasing fertilizing material from other sources than the home farm. It should be as much the calculation of a small farmer to produce all the manure he needs on his own place as to endeavor to cultivate the land well. *Trust to home resources* is a good motto for all. A farm of *ten acres* is not enough to enjoy life as favorably, as economically, or to conduct as judiciously as one ought.

A certain space of every farm should be devoted to fruits, then a certain space to garden truck, which will yield an income the first year, then another space should be devoted to raising crops for home support, and, lastly, another space in grass, which is to furnish, through the cattle who eat it, the manure which is to fertilize the whole. It is impossible to make small farms pay unless *manured well*.

We hold that no man should go off his own farm to buy manure, but should always provide for an abundance on his own place; no one ought to complain if he has more than enough. The stumbling-block in the way of the success of too many small farmers is, that they trust too much to the *natural fertility* of their soil, and do not calculate enough on proper and abundant supplies of manure. They find out sooner or later that a small farm, to pay well, needs fine culture, and that depends more than all things else on a big manure-heap.

Given *that*, then we believe in farms of *ten acres, four acres*, or even ten rods; *without that*, we would not give a fig for as fine land as lies within a thousand miles of the great city.

Small farms are correct in theory, provided they are treated in the best manner; but large farms can always be made to pay, because they possess conveniences not enjoyed by the other.

In fruit-culture, it is impossible to crop the ground year after year without giving back to it some appropriate nourishment, and bountiful crops will come in proportion to the amount applied.

Trees girdled by Field Mice.

PREVENTION is better than cure; and if a farmer wishes to save his trees from the depredations of field mice, let him observe one or two simple rules.

1st. At the beginning of each winter, see that the trees are hilled up with soil.

2d. Pack the snow well and deeply around the trunk of the tree and out several feet above the mound of soil.

These little items may occasion a day's time to the acre, but how much better is one day spent at the beginning of winter than to find the trees all barked and destroyed the next spring, and a hundred dollars to be spent to replace them.

Wash for Fruit-Trees.

YEARS ago Downing recommended in THE HORTICULTURIST the following wash for fruit-trees troubled by insects and borers:

"One gallon of soft soap, one pint of sulphur, mixed with tobacco-water to the consistency of paint, and applied with a brush to the tree."

Another good wash is as follows:

"Five gallons of weak lye, one pound sulphur, and four ounces of lampblack, thoroughly mixed."

The best time to apply all washes being in early summer, say during the month of June, first removing all rough bark, and applying the wash with a brush.

Early Pears.

THE *Country Gentleman* recommends the Doyenne D'Ete, Giffard, Rostiezer and Tyson.

We will indorse the first and third, but not the others for general cultivation; and for very good reasons, even those admitted by that journal itself, namely, that the Beurre Giffard is a tree of only moderate growth, and slender branches, but the delightful quality of the fruit is worth a great amount of trouble and patience after all to produce it. The Tyson is a vigorous and healthy grower, but a very tardy bearer, and fruit-cultivators would lose all patience in waiting for a good crop. It begins to yield early, but no full crop for nearly ten years.

The Doyenne D'Ete is highly recommended by the editor of the C. G.—as a good grower, abundant bearer, and a hardy, reliable sort, ripening before nearly every other variety—at the time of wheat harvest. Is somewhat small in size, and although not of the highest quality, yet its earliness is a strong point in behalf of its value as a popular fruit.

The Rostiezer "is well known as a free grower, and a most profuse and reliable bearer. The fruit is rather small, but of delicious quality."

Hints for the Month.

ORCHARD AND NURSERY.

SUMMER pruning is a part of orchard culture that receives but little attention compared with what it ought. One reason why we suppose to be, is, that long time practice has advocated spring pruning, especially where increased vigor is desired to be given to a tree. But from careful observation for a number of years, we are pretty well satisfied that little is gained on that score, whereas much injury is induced from spring or fall pruning by cankered wounds, increase of sucker shoots, and other ill effects that might be avoided by pruning in July. At this time, the apple-tree is making a rapid, healthy growth, the foliage is fully formed to rapidly elaborate the sap; and in this state a wound made heals rapidly, and is soon grown over with layers of new bark and wood, which is now so fast naturally increasing. Pruning at this time tends to relieve the tree in case of drought, as evaporation is governed by the evaporating surface, and is relieved in proportion to the amount of foliage removed, and thus the draught on the roots is lessened, and, as a consequence, the health and life of the tree increased and added to, rather than decreased, or rendered diseased, as is too often the case where spring pruning is practiced.

Trees grafted will need have all suckers removed that stand near the graft, as they only take from and prevent the graft growing vigorously with a healthy growth. See, also, that the cut surface of the stock is kept covered with wax or clay.

The time for budding will vary with the location, season, and the variety of tree. The governing circumstances will be the development of the buds, and when the bark "runs" or parts freely from the wood of the stock. Budding is a simple operation, yet how few are there who attempt its performance; whereas, by a little observation and practice, it may be readily learned by any one of common ingenuity so that he may do his own. The buds should be inserted as close to the ground as possible, and the greatest care should be used in procuring buds true to name, and in keeping the varieties so marked that there shall be no mistakes. Zinc labels, written on with lead pencil, and fastened to the stock with lead wire, are as good for tagging as any thing, are enduring and accommodate themselves easily to the growth of the tree.

Stocks budded last year may now be cut off smoothly close to the shoot from the bud.

Newly planted trees especially will need mulching, and bearing trees will be benefited by it. The question is often asked, "With what shall I mulch my trees, vines, etc.?" New-mown grass is one of the very best materials for the purpose, as it contains no seeds, will lie in place, and is not unsightly, like coarse strawey manure. Almost any other article is good which will shade

and keep the soil moist; a frequent stirring of the soil is perhaps the best of all mulch, but, as this is apt to be neglected, it is better to apply a few inches of some kind of mulch for four or five feet in diameter around newly-set trees, first stirring the soil well with the digging fork or pronged hoe. The mulch should be removed again as soon as fall rains or cool nights come, to be again put in place after the ground is frozen for winter.

Thinning of fruit, especially on young trees, is too apt to be neglected. Pride must be mortified where a young tree sets with much fruit, in removing and thinning judiciously, if we would look to the future good of the tree in bearing fruit. We have known and have in our mind's eye instances of young fruit-trees entirely ruined frequently, and often injured permanently for regular bearing, for the want of a little present self-denial of ambitious motives and good judgment in thinning out judiciously.

In gathering cherries, care should be used not to break any limbs, or injure the bark by climbing and standing on the trees with heavy boots; always use a fruit-ladder for gathering cherries or other fruit from trees that can not be well reached from the ground. Why is it that our cherry-trees are failing to such an extent all around us? In some parts, the trees are infested with the black aphid to such an extent as to destroy all new growth and prevent the development and maturity of the fruit; in other places, they become diseased and die, or die from no apparent cause, etc. Who will tell us the cause or the remedy therefor?

Insects must be continually fought if we would save from their ravages. A few hours' time spent by a person with his eyes open in destroying moths, worms, caterpillars, etc., will be richly repaid in their diminished destructiveness and numbers. Late crops of the tent caterpillar will be found here and there. Slugs will appear on the pear-trees this month; the caterpillar should be wiped out, and the nest-places washed out with strong soap-suds; the slug treated to a dusting of fine, dry slacked lime, shaken from a bag tied to a suitable pole.

FRUIT-GARDEN.

THE best fruit of its kind should be aimed at to be cultivated by every one; and now, while it is ripening in succession, is the time to compare varieties and test their qualities as to taste, habit of growth of plant, bearing, and ripening qualities, etc. A visit to extensive fruit-grounds, comparing different and the same varieties in different localities, and under a variety of circumstances, will be found a paying investment, where different and new varieties are desirable to be obtained.

Keep the ground occupied with blackberries free of weeds by hoeing, or a heavy mulch, which is better, as it is difficult to work among the

bushes, from the amount of sharp spines they present in all directions. Pinch in the rampant growth, and keep the plants within bounds to a more stocky, compact form. Tie up the branches that bend over with their load of fruit, and pinch off the ends of the strongest growers.

As soon as the raspberry-vines have done bearing, cut out and clear off all the old canes, and also remove all new ones not needed for next year's bearing or for increasing plantations.

Keep all the grape-vines, young or old, tied to the trellis or stake. Pinch the laterals, as directed last month, and keep doing so as long as they start and grow. Stop the growth of fruiting canes at two or three leaves beyond the last bunch of fruit; see that no young vines are allowed to overbear; better pluck off all fruit set than to allow their vigor and health to suffer from over-bearing. Use sulphur, by dusting it among the foliage and fruit of the vines, upon the first indication of mildew; this will also be found a preventive of thrips, which sometimes prove so troublesome in some localities.

As soon as the last of the strawberry-crop is removed from the vines, weed the bed thoroughly, or with very little trouble you can now make a new bed. If the bed be of considerable size, mark out sections three feet wide, with a section eighteen inches wide between; on these wider sections spread a good coat of old, well-fermented manure, free of weed-seeds, lime, and ashes, and dig or plow it in to the depth of the soil; rake and make the surface quite smooth and fine; weed out the plants on the narrow sections, and they will soon throw out runners into the prepared soil from both sides, and by early autumn will entirely fill it. When it is full, the narrow sections may be dug up, and they will serve as paths so long as desired. Cut and keep off all the runners from all the beds not to be renewed. It will pay to work in a dressing of ashes around old plants. Good wood-ashes are as good fertilizers for strawberries as any thing to be had, as they supply all the necessary elements of the plant and fruit.

Thin gooseberries early in the month; those removed will answer for sauce and cooking, and those left will grow all the better for thinning.

Thin the fruit freely on dwarf fruit-trees, if at all disposed to over-bear. If the trees are to be kept dwarf, pinch them into shape as they grow. The pyramid is the better and more desirable shape for general culture. Treat the trees to a dressing of manure as far around as the roots extend in the soil, and work it into the soil well, and give a mulch three to four feet in diameter. Treat the red spiders to frequent syringings of soap-suds or clear water—a damp atmosphere is unfavorable to their existence. If the slugs appear, dust with air-slacked lime.

Much pruning may be saved by removing needless shoots when they first start. The thumb-nail and finger, together with the pocket-knife, are the best implements for pruning pur-

poses, and should always be kept in order, and be applied whenever a shoot starts in the wrong place.

LAWN AND FLOWER-GARDEN.

As much, and often more, depends upon the summer care given the lawn and ornamental grounds than in their first laying-out and ornamentation, although the care of finished grounds during the month of July is light work.

The lawn must be kept mown and the grass short till the beginning of the summer drought, when the mowing should be less frequent and not as close; for it is necessary to have some protection to the roots of the grass, or they will dry out and the grounds become unsightly; it is better to leave the grass as it is cut than to rake it off, as it serves as a mulch. The lawn mowing-machines we now have are admirably adapted for the purpose, as they will cut the grass when less than two inches high, and, with the roll connected with and following the cutter, roll the grass down after being cut, and leave it smooth and very nice. During the growing season is a fine time to devise new improvements, as now we can see any defect or want-age that may exist, and plan to remedy it better than when the trees and ground are defoliated of their summer garments or snow lies piled over the land.

The margins, whether along a walk or road, or those of a bed cut in the lawn, should be kept neatly cut, and all perennial or annual weeds, such as dock, dandelions, plantain, or bitter-weed, should be pulled out by the roots while young, as then they are much the easiest destroyed. What a nice carpet is to a drawing-room, a well-kept lawn turf is to a place large or small; every thing else looks the better for it.

A lawn, to be an ornament, must be kept neat, and every appurtenance have a neat and cozy appropriateness. Stakes, strings, trellises, etc., should be selected with an eye to neatness; instead of being conspicuous, should harmonize with natural surroundings, and, so far as possible or practicable, be hid by the foliage of the plant or vine which it is designed to support.

Often it is desirable to have flowering and "foliage" plants along side of walks, and, as "crinoline" is no respecter of such borders, it becomes necessary to have something to fend off and save the plants from such encroachment; a neat, galvanized wire, stretched on appropriate supports, ten to twelve inches above the ground, will, while not being particularly offensive to the eye, effectually protect from the encroachment.

Some bulbous plants will have flowered, and completed their growth for a season, which may be known by the wilting and dying down of the foliage; such should be taken up, dried, and put away, in neatly labeled paper bags, in a dry,

cool place to await fall planting; some may be best preserved laid away in boxes or pots of dry sand.

Carnations are numerous in variety, and many of the more common are beautiful and desirable, and by propagating from the seed a very gratifying collection may be made, though they be only of the common kinds. Choice or rare varieties are better procured from florists or dealers, and such can best be multiplied by layers and cuttings. As cuttings are somewhat difficult of rooting, unless bottom heat is employed, the better way for the general cultivator is to layer, which should be commenced when they are just in flower, so that they may get well rooted before winter. Water the plants well, and then take the shoot to be layered and cut off the lower leaves, leaving only a few of the uppermost ones; with a sharp knife cut the stem about half off, with a slanting cut upward through a joint, peg it down in a prepared trench, and cover with two inches of good compost, and not water it for a day or two, as the cut should be allowed to dry a little. As good soil for growing carnations in, either for pots or garden culture, as any is to gather old pasture turf—the older and richer the better—lay it up in piles, and let it decay, and when well rotted, mix one part of old well decayed cow manure with eight parts of the decayed turf soil. As the carnations in the open ground come to blossom, tie up the stalks to neat stakes, and if the most perfect development of flower is desired, cut out some of the buds. Professionals well understand the art of causing the calyx of the flower to open regularly to develop the most perfect flowers; but few general cultivators will like to take the trouble to tie up the calyx with an elastic string, just as it is about bursting, and with a sharp penknife carefully cut the notches between the divisions. This beautiful class of plants is preyed upon by wire-worms, and among young layers, so that it is quite important to use every precaution, and also to hunt them out and destroy them.

Bedding plants—those tender plants put out for their summer effect—must be closely attended to as they grow—and grow fast they will now—or but a poor apology of the good effects of bedding plants will be realized that may be.

Verbenas, ageratums, geraniums, and other flowering plants should be pegged down, and kept in perfect trim. Each branch or shoot, as soon as it gets long enough to be blown about, should be fastened in place. A variety of forms and articles are used to hold them in place, and any thing that will do it is good, from a hair-pin down through willow pegs with hooks, bent twigs, to a strip of bass matting, doubled around the branch, and the two ends pushed into the soil and made fast, by compressing the earth around them.

Pinch, and prune the foliage plants, zonales, heliotropes, etc., in order to make them grow

stocky, thick, broad and short, rather than tall and lanky.

Train, with care, the new growth of climbing roses, and cut back perpetuals, freely, for late autumn bloom. If insects appear, use cresylic, or carbolic soap-suds, using care not to apply it too strong.

The Japan, and other lilies should be kept tied to stakes, to prevent being blown down by winds. Look, frequently, to see that the Japan varieties are not infested by worms, which are apt to trouble this sort frequently; searching out, and destroying is the only practical remedy.

Seeds of perennials sown as soon as they ripen will furnish fine plants for next year. A bed should be held in readiness for such, and should be carefully cultivated.

The variety of climbing plants should be looked to, to see that they are all kept to their trellises, stakes or pillars, and that no straggling branches get out of place, or that no heavy winds bring them down; well trained, and firmly fastened, there is little danger of their getting out of place.

The seeds of some plants will now be ripening, which it will be desirable to save for future use; let all such be carefully saved, dried, correctly labeled, and laid away safely in a dry, cool place. Let the seeds be saved from the best, most perfect specimens, as very much depends upon judicious selection.

Horticultural Notes.

FOLLOWING NATURE IN HORTICULTURE.

(Reported for THE HORTICULTURIST. By O. L. BARLER.)

HON. W. C. FLAGG read an interesting essay at the May meeting of the Alton Horticultural Society on the subject of "Nature in Horticulture," in which he took exception to the *loose talk* in horticulture about "following nature;" for, said he, we do not in horticulture seek the conditions nor the results of nature. Instead of scattering trees growing irregularly, we want great masses regularly planted for convenience in cultivation. Instead of vigorous trees, we want fruitful trees; and in place of the small and acid fruit of the fields and forests, we desire the large and luscious monstrosities of the garden and orchard. Our whole efforts in cultivation are really *departures* from the natural and healthful status—that is, "What we covet is really a state of diseased and abnormal action." Hence it is evident that we can not say we "follow nature" in horticulture, except in this sense, that we must know the laws of nature, and obey or violate them according to the object to be accomplished. In propagation, we learn to observe the law of relationship in grafting the apple upon the apple and not upon the pear; and again to violate it, in grafting the pear upon the quince, in order to threaten life, which tends

to fruitfulness. In transplanting, we learn that fibrous-rooted plants recover themselves most easily, and seek by frequent removals to induce roots of that character, for the benefit of the tree in its final and permanent planting in the orchard. In cultivation, we stimulate an excessive growth to obtain early maturity; and in pruning we sometimes endeavor to induce stronger growth of wood, or again to threaten life, and induce the formation of fruit-buds.

The art of horticulture is the wise application of natural sciences, and hardly in any sense an imitation of the prodigal and costly methods of nature. Nature is extravagant, as, in view of her large landed possessions, she can afford to be. But the fruit-grower on his prescribed acres must make every rod blossom and fruit. His art must "mend nature." Nature cares not if she has no crop, she has no debts to pay. But the horticulturist has "his young barbarians at their play," whose natures, at some expense, he hopes to train into something higher and nobler, and this, and food, and raiment make profits needful, and he must produce or create these profits, as all men should, by yearly care and toil.

UPPER ALTON, ILL.

VINE LEAVES—THEIR VALUE.

IF we are to believe every thing that is said as to the vine, then it is the most economical plant under the sun, next to the bamboo. A wise horticultural writer said, not long since, that the prunings and clippings of grape-vines were a *capital manure* for the vine itself. What a brilliant idea! Hadn't he better get out a patent immediately?

Every one knows that the fruit is good; but does any one *know* positively that the *leaves* are of any appreciable importance?

A letter in the *Philosophical Magazine*, by James Hall, says: "From experiments which I have made, I find that, on being dried, which should be done in the shade, and infused in a teapot, the leaves of the vine make an excellent substitute for tea. I have also found that, on being cut small, bruised, and put into a vat or mashing-tub, and boiling water poured on them in the same way as done with malt, the prunings of the vine produce liquor of a fine vinous quality, which, on being fermented, makes a very fine beverage, either strong or weak, as you please; and on being distilled, produces an excellent spirit, of the nature of brandy. In the course of my experiments, I found that the fermented liquor from the prunings, particularly the tendrils, when allowed to pass the vinous, and to run into the acetous fermentation, makes uncommonly fine vinegar."

In connection with the above, the editor of the *Ruralist*, Cincinnati, Ohio, adds a personal testimony that is quite interesting:

"To this observation we beg to add, that we

once, in England, tasted some wine made from the summer prunings, with a small addition of sugar, that was very superior to the common wine made in that country from *water, grapes, and sugar*, and nearly equal to the champagne wine often made there from gooseberries; and that the vinegar made from the tendrils and prunings was of so good a quality that it would sell for as high a price as most of the continental wines sold for from the press.

"Vine leaves, as well as the tendrils, have of course an astringent taste, and were formerly used in diarrheas, hemorrhages, and other disorders requiring refrigerant and styptic medicines. The juice or sap of the vine, called lachryma, has been recommended in calculous disorders, and is said to be an excellent application to weak eyes, and specks on the cornea. The tendrils of the vine were eaten as a pickle by the Romans."

SOIL FOR THE FLOWER GARDEN.

THE *Journal of Agriculture* says: "It is not every piece of ground that is composed of the very best soil for growing of flowers, and many a person becomes almost discouraged at the meagre results produced after a great deal of labor and care in sowing, watering, hoeing, shading, etc.—results in nine cases out of ten attributable to the unsuitableness of the soil. Strong, clayey loam, or thin, loose gravel are equally unfit, and if you have such soil just where you wish your flower-bed to be, then the cheapest way will be, to remove a foot deep or more of the top soil at once, and replace with fresh loam; but if your soil is a good, fair loam or sand, and only needs to be dug deeply and enriched, it is a matter easily done. The digging only requires a strong arm and a will to do the work right, while the enriching is best done by having a heap of soil in some by-corner, over which each day all the soap-suds, chamber ley, etc., from the house should be emptied. Dig over the heap occasionally, or say once a week, leaving it so that, as the liquids are poured over it, none will waste away. One month will generally suffice to make in this way soil full of food for the production of the finest plants and flowers."

A RUSTIC FLOWER-BASKET.

A CONTRIBUTOR to *The Country Gentleman* sends a description of a pretty flower-basket for home use, as follows: "Send to the woods and procure some long stems of the wild grape, from half an inch to an inch in diameter; mark off as many ovals as are desirable upon the grass plot, say 6 by 3 feet, and drive down all around them stakes of the size of the wrist, and at the distance of a foot apart. Twist the grape-vines together in the form of a rope, so as to form the handle of the basket, and insert the

ends in the ground at each end of the oval, allowing it to form a curve over the same. Now weave the vines into the spaces between the stakes, until the side of the basket is 12 or 15 inches in height. When done, saw off the tops of the projecting stakes even with the top of the basket, fill in the interior with suitable earth to within 4 inches of the top, and plant therein such plants as portulacas, verbenas, petunias, phlox Drummondii, etc., and cypress-vines at the ends to entwine around the handle. When done nicely, nothing can present a more beautiful sight than this rustic basket of flowers, when the colors are of various hues and of regular height."

PLEASURES OF COUNTRY LIFE.

THERE is a beauty and contentment after all in country life that compensates entirely for every care and trouble. City life possesses at first a comfort and enjoyment which gives to the stranger a sense of keen delight; but after a few years of toil and painstaking to make both ends meet, and hard at that, it is a perfect pleasure to leave the old business desk, and take a glimpse of the country just as it is waking into life, and trees and flowers are putting on their wondrous beauty of leaf and blossom.

We took a short walk the other day on Bergen Hill, our first trip since the snow began to melt away, and really we felt it was a perfect little paradise. How lovely that lawn looked, and the evergreen that skirted it on the borders; and then a little further on, how thoroughly delicious was the sight of that bed of tulips, that pear-tree in bloom, that clump of *spiræas*; and, then how fresh was the foliage on the long row of sugar maples, which lined the street for so long a distance. How we envied those cottagers, whose snuggy retreats bespoke such evident delight in tilling mother earth, or those dainty hands which every now and then left their work in-doors to run out and adjust some twining vine, or give just a little dab with the trowel in the soft earth, the touch of which is always healthy.

Ah! well, country life hath more pleasures than misfortunes—more enjoyment for the industrious than the indolent. More rewards than demerits. Let us enjoy it again, and as long as we can, with thanks that it speaks to us nought but that which is pure, simple, and peaceful—no evil nor displeasure.

RENOVATING OLD CURRANT BUSHES.

FARMERS and gardeners are terribly vexed and troubled, now and then, with some unaccountable trouble in their *currant bushes*, and can not understand how it is that a plant like this, which seems to thrive everywhere, and even under the greatest of neglect, should give any

trouble. Its leaves will suddenly turn all sorts of colors; and just as fruit begins to form, there appears a myriad of worms who devour it completely.

Old currant bushes are hard things to deal with, as their gnarly, withered stems are difficult to reconstruct. This is the way we would fix their case. Take a knife, cut off all dead or decayed branches close to the ground, also trim back all living stems to within two feet of the ground, or fully one half their length; if there is an abundance of them, trim off freely, and allow from four to six to remain; then dig around the bushes well, stirring the soil to good depth and distance around, manure well, and *mulch* when the warm weather comes on. If worms attack the bushes, scatter powdered hellebore freely on the leaves; and if finally, after one season's experience, there does not appear life enough to justify a patient waiting for fruit, then cut them down, clear them out, and replace with a new plantation.

DWARF ORANGE-TREES.

NOT long since we called attention to the fact that there was a possibility of introducing and acclimating orange-trees which would grow in our Middle States; but we have just met with an announcement which is more novel still:

"*Dwarf orange-trees* from China have reached Los Angeles, California, in good condition. 'It is curious,' says a writer, 'to see an orange-tree not over two feet high, and filled with blossoms and fruit.' An acre of ground would contain over four thousand of such trees; and although each tree would produce not more than a half dozen oranges, yet the yield per acre would largely overbalance that of standard trees."

Well done! who knows but we may yet have some growing in our back yards and gardens, by the side of the dwarf apple and quince.

PATENT LAWS IN HORTICULTURE.

WE are glad at last to see the patent business for horticultural subjects has received a quietus—on full consultation with the different departments and committees at Washington, it has been decided not advisable, nor even possible, to adopt a satisfactory method for the protection of this class of home productions.

We believe with others, that a man who originates a new vine, fruit, or plant, should have not only due honor, but profit for his long experiments; but really how is it to be done?

Horace Greeley says, if he buys a new vine from a nurseryman, *that* vine is his particular property, and no one else's. Now, the wood that the vine makes that same year is his too, and if he chooses to sell it, it is no one's business to hinder him—he has a perfect right to his own.

We believe there is too much humbug in the revamping of old varieties under new names, and as Mr. Fuller suggests, a good office of registration, with the power of a national authority, would be very desirable for reference and criticism at all times; but we can not see how patents can be given, nor of what use they practically are after given. Virtually they are a dead letter. A mowing machine or a garden cultivator can not reproduce itself; but vines, trees, and plants do, and their produce belongs to their owner, and no one else. Hence we say, that we hope the patent business in horticulture has at last been laid permanently on the shelf as a useless project.

TRAINING GRAPES AS PYRAMIDS.

THE most successful and easiest kept vineyards we have ever seen were conducted on the single stake and spur system. Somehow the vines enjoyed a health and vigor, and gave a quality of fruit superior to the trellis system. *The Country Gentleman* has a sensible article on training grapes as pyramids, although we think that there would be considerable difficulty in curbing the more rampant varieties.

This mode of training, if skillfully and neatly performed, presents a fine ornamental appearance, and is well adapted to such gardens as a formal trellis might injure in beauty. It is also an easy and convenient mode for keeping new kinds in shape, until they are sufficiently tested, as a small tree trimmed bare, except a few of its limbs, furnishes a ready support. A larger tree, thus prepared, will answer for grapevines intended to bear permanently. In this case, the most durable wood should be selected, such for example, as the red cedar. The constant exposure to the dampness and shade of the vine tends to induce decay. This support is easily set in the ground by driving the sharpened end into a crowbar hole. The vine may be allowed to grow two or three years previously.

In training the vine to this support, a process for pruning may be adopted similar to that employed in fan or spur training—the main shoot or shoots passing spirally around the stem, and the spurs, or short canes, extending outward, and being supported by the diverging limbs. The pruning is best performed by allowing two shoots to grow in an upright and spiral position, and allowing them to increase a foot and a half, or two feet in length, each year, the surplus being cut back.

The size of these supports must vary with their intended purposes and with the character of the variety. If for permanent bearing, or to continue twenty years or more, they should be much larger than for a few years' trial. The Delaware and Rebecca do not need support so large as the Isabella and Concord. The latter, to afford ample room, should be twelve feet high

or more, and the side limbs should extend about three feet at bottom, and be shorter as they approach the top. If the part which enters the ground is well coated or soaked in gas-tar, this part will last as long as desired.

THE CENTURY PLANT.

THE blooming of a century plant (*Agave Americana*) in this country is such an unusual occurrence, that it becomes immediately an item of widespread information, and crowds flock to see the great novelty. The Rochester *Democrat* refers in a pleasing manner to one in the grounds of Frost & Co., Rochester, N. Y., which has excited considerable attention:

"This *Agave* is of the variegated species, and, as near as can be estimated, its age, as has already been stated, is seventy years. The history of the plants of this class, given in botanical works, describes them as looking like a vast chandelier, when in bloom. The branches grow out from the large stalk at regular distances apart, in a curved form, and each one is tipped with a flower of green color. The stalk is surmounted with one immense rose, which, according to accounts, is a cluster of thousands of distinct flowers. The flowering stalk has been known to attain an altitude of thirty-two feet.

"Frost & Co. transferred the plant to the grounds last season, and it grew in the open air. In the fall it was transplanted in the greenhouse. The firm was disposed at one time to destroy it, as it became unwieldy and occupied a great deal of room. About April 25th, the stalk began to grow so fast that it attracted the attention of the employés in the nursery, and from that date to the present time it has increased in height at an average rate of three inches per day. From the 7th to the 9th of May it grew seven inches, the time being forty-eight hours. In the forty-eight hours subsequent, it grew eight and one quarter inches. The stem resembles to a great extent an ordinary full grown cornstalk. It is of a green color, and at the present time is about three inches in diameter, and six feet, six inches in height. Instead of being attracted toward the light, like other plants, it has an opposite tendency. It is thought that this *Agave* may flower when it attains a height of fourteen feet. It will probably bloom in June, the month of roses."

MORE FRUIT NEEDED.—With all the orchards which have been planted throughout the North-western States during the last twenty-five years, fruit continues comparatively scarce; and it is evident that the increase of fruit being held in check by the depredations of injurious insects, atmospheric blights, and the effects of severe frosts and protracted droughts, it does not keep up with the increase of the population. More fruit is demanded according as the popu-

lation increases in numbers and wealth ; new orchards and fruit gardens must be planted, old ones enlarged, old trees that are nearly past bearing must give place to young and vigorous ones after the soil has undergone suitable preparation. Healthy but unproductive trees must be grafted with the most approved varieties, and a general effort must be made by farmers and orchardists to meet the demand for fruit which seems to be increasing every year.—*Western Rural*.

HOW CATTLE KILL TREES.—It is a noticeable fact that a tree ever so thrifty, and of whatever kind, to which cattle gain access, and under which they become habituated to stand, will very soon die. In the case of a solitary shade tree in a pasture or by the roadside, this is of common occurrence. The query may have been suggested, To what is this owing ? In the first place, rubbing a tree by the necks of cattle is highly pernicious, and if persisted in, it will commonly destroy it sooner or later ; but if the body of the tree be cased so that their necks cannot touch it, death will ensue just as certainly if they are allowed to tramp the earth about it. But why should tramping the earth destroy the tree ? The reason is one of wide and important application to the laws of vegetable growth. The roots of plants need air, if not as much, yet just as truly as the leaves and branches. Their case is analogous to that of fishes, which, though they must have water, must have air also, namely, just about as much as permeates the water. If it be all shut off, so that none which is fresh can get to them, they will exhaust the supply on hand, and then die for want of more. So the roots of trees and vegetables want air. When the earth is in a normal or natural condition, it is full of interstices and channels, by which air gets to them. But if the cattle are allowed to tramp down the earth, and the sun aids their work by baking it at the same time, a crust like a brick is formed, wholly impervious to the atmosphere, and the tree yields to its fate. So a tree can not live if its roots are covered with a close pavement. They will struggle for life by creeping to the surface, and hoisting out a brick here and a stone there, or find a crack where their noses can sniff a little breath ; but if fought down and covered over, will finally give it up. So if a tree be thrust into a close clay, or its roots are kept under water, it refuses either to be an aquatic, or to put up with its aluminous prison. It will grow as little as possible, and die the first opportunity.—*Prairie Farmer*.

CONOVER'S COLOSSAL ASPARAGUS.—DIRECTIONS FOR CULTIVATION.—Sow the seed in the spring, four to six inches apart, in drills two feet six inches apart, working plenty of well-rotted stable-manure in the drills, and keep the soil well

loosened between the rows and free from weeds. The following spring set the plants out from four to five feet apart each way, putting the crowns eight inches below the surface, with plenty of good stable-manure under the plants. Keep the ground loose, by frequent plowing between the plants and digging around them ; use care not to wound the roots. In midsummer, plow in a good coat of stable-manure, and in spring give a dressing of guano, poudrette, or bone-dust on the plants. The soil should be light, sandy loam. Commence cutting the third year from the seed ; each fall cut the tops close to the ground and remove. If properly manured and tended, you can get plenty of large, tender sprouts, and it will continue to improve and last for thirty or forty years.

GRAFTING.—Those persons who are intending to engraft trees with new fruit must attend to their scions, and see that they are kept continually moist. Many a man is disappointed on looking at his scions, to find that they have been removed from the spot where he placed them, and that they have become as dry as husks, and are entirely unfit for setting.

It is well to set them early. Do not cut away a single branch from the tree excepting the one the scion is set in. Leave all the others until about the middle of June, then take out about one third of what must eventually come away. In October, after the leaves have fallen, take away another third ; and in the following June take the remainder. In this way the growth of the tree is not suddenly arrested, and is able to go on with nearly its full powers. Cutting off the old branches at these stated times prevents the sap from oozing out and destroying the tree. We have seen some of the finest trees that ever stood in the ground ruined by taking off most of their branches at the time of grafting them. Nearly every place cut bled ; and now, although the trees have been planted less than twenty years, they have the appearance of trees that are fifty years old. It is an excellent rule never to take away any branch except the one to make room for the scion, or some twig that would be likely to interfere with it.—*New-England Farmer*.

LOW HEADS FOR APPLE-TREES.—A writer in the *Rural New-Yorker* gives his experience in cultivating his apple-trees as low as possible. Indeed, he says that his Rhode-Island greening trees, now twenty years old, stand only fifteen feet apart in the rows, and are trained so low that three fourths of the apples can be picked by hand from the ground ! He has a single row of these trees twenty-six rods long, or about twenty trees in all, and says their product last fall was fifty-five barrels of best marketable apples, which he sold at \$3 per barrel, and twenty-five bushels second quality sold at 50c. per

bushel; from the rest 110 gallons of cider were made and sold at 10c. per gallon, and \$7.50 worth of dried apples, making a total of \$196. We should say this was doing well even for Central New-York, where the crop was produced.

The *Germanatown Telegraph* adds:

"On our own premises we have always pursued the same course with our pear-trees and have succeeded well. Sometimes the crops have been very large. Fruit-trees that are trained low, can have their fruit gathered from the ground or from a step-ladder, and will frequently bear perfect fruit within from twelve to eighteen inches of the ground. This low-branching of trees shades and protects the trunk from the hot sun in summer, and thus insures for it a longer and more productive life."

EVERGREENS FOR ORCHARD SCREENS.—Samuel Edwards, of the Northern Illinois Horticultural Society, writes a sensible letter to the Secretary of the Wisconsin Horticultural Society on this subject.

"Our first trees were set some twelve or fifteen years since, and were White Pine, which answer well. The first Norway Spruce screens for this purpose were set in the spring of 1860; a double row, ten feet apart, and the same distance in the row, alternating trees in one row opposite the space in the other. They are planted on all sides of the orchard, and fifteen rods apart; the rows running north and south. A single row is set in the place of a row of fruit-trees.

"A pear orchard of near five hundred trees has smaller squares, divided off by evergreens. They appear to endure our winters much better when thus protected. Scarce any apples are now planted here, except such as endured the hard winter of '55 and '56, but I am beginning to set some of the best varieties which were injured then, and am confident with the shelter, and working in limbs on hardy stocks, they will succeed.

"Apple and pear trees among evergreens have here borne full crops; when others, standing near, without protection, had most of their blossoms destroyed by spring frost. As pear-trees are liable to die from blight, it is my purpose to replace them with evergreens.

"Many of our farmers are buying evergreens of small size by the thousand and growing them for screens. Whenever they are generally planted, we will see their full benefit, in a marked amelioration of severity of our winters. A perceptible change is already seen and believed to be occasioned by our fences, orchards, groves, and cornfields."

At the meeting of the same society, February 11th, several other good subjects came up, which were sensibly and satisfactorily disposed of.

AGE AT WHICH TREES SHOULD BE PLANT-

ED.—Mr. Stickney offered the following, which, after discussion, was adopted:

Resolved, That we recommend that the most suitable age for planting trees is at two and three years.

In the discussion that arose on this resolution, Mr. Tuttle said that there was some difference in trees. Some are better at two and some at three years. It was a wrong impression that trees so very old were the best. When men send to him for the best trees, he always sends them two or three-year trees. He had himself planted the Fameuse, some two and some three years old, and the small ones were soon as large as the others, and now some are double the size of the large ones, and are worth much more. Men invariably want two-year-old trees after they have once tried them, who before would not set a small two-year-old tree.

Mr. Adams agreed with the last speaker, and said that his experience was, that a small tree, that can be planted with all its roots, was worth much more than one that must necessarily be mutilated in taking up. While the large tree was recovering from its loss of roots, the small one will be making top, and equal the other in size.

Mr. Kellogg thought this the most important subject that had been before the meeting. Old trees that are damaged by removal are never as healthy as young ones, that receive no such shocks. He had rather have a graft six inches high, than a tree six feet. He thought the cheapest and best way was to set grafts that had not yet struck, putting two or three in a place to secure the growth of one, and then thin out, rather than to set any trees that had grown.

Low TOPS.—Judge Knapp offered the following, which was adopted:

Resolved, That we recommend that apple-trees be trimmed with low tops, and that the branches be induced to grow as nearly as may be at right angles to the leading shaft of the tree; and not more than from two to four feet from the ground to the lowest branches.

Mr. Tuttle would support this resolution. He thought the manner of forming the top very important. There should be a leading shaft, and all branches should be as nearly at right angles to that as possible. Such a tree would not be liable to split down, nor rot in the angles. Some trees are disposed to grow upright; with such the trimmer will meet with most difficulty, but perseverance would do much toward overcoming such trees. He approved of the low tops. They would stand the climate better, and the fruit was more readily picked on such trees.

SEEDLINGS OF THE CONCORD.—Samuel Miller, of Bluffton, Mo., reports as to his experience with the Concord seedlings. The Martha, Black Hawk, and Macedonia are most promising. Black Hawk is ten days earlier than Concord, longer in berry, and, he thinks, sweeter. The

Macedonia did not prove its quality, nor was it a strong grower, until the fifth year, when it became robust and vigorous. The Martha is described as follows: "Bunch medium, rather loose shouldered; berry medium, round, pale yellow, most berries containing but one seed, somewhat pulpy, sweet, juicy, slightly foxy, but not disagreeably so; vine strong grower and healthy. Ripens one week earlier than the Concord, its parent."

SETTING OUT FRUIT-TREES.—We heard a neighbor, last spring, call to his son, "John, have you finished digging the holes for the pear-trees?"—"Yes, sir," was the reply. A curiosity was felt to examine the "holes;" so, walking into the garden, the rows of little excavations, resembling the openings made to receive the seed in a corn-patch, met the eye. The soil was hard and compact, in a condition wholly unsuited to the wants of an orchard of fruit-trees. "You will lose your trees, neighbor," we said, "if you plant them in this way; it is not only a waste of money, but a loss of time and labor."—"Why, are not the holes large enough, or deep enough? How would you dig them?"—"We never make but *one hole*," we replied, "for any number of trees, and that embraces an area equal to the whole of the ground devoted to the orchard." This digging a superficial pit in an unworked soil, in which to bury the hungry roots of young trees, is a proceeding absurd and wasteful. Fruit-trees should never be planted until the soil is in fit condition to receive them. It must be pulverized, and the subsoil turned up and exposed to air and sunshine. Good, well-rotted stable manure must be applied liberally, or ashes and bone-dust, which are better. Look well to the planting of fruit-trees.—*Journal of Chemistry*.

It is said that fruit-trees planted in timbered land will come into bearing sooner than those planted on prairie land, but the latter will continue fruitful much longer than the former.

Pomological.

ADVANTAGES OF WESTERN MISSOURI FOR FRUIT CULTURE.

GEO. S. PARKS, of Parkville, Mo., writes a few words touching the prospects of fruit culture and the eminent advantages of his section:

"Some years since, wishing to plant extensive orchards, I commenced experimenting and collecting, from all quarters, fruits of high qualities, and trying and testing their adaptability to our soil and climate, sparing no expense or pains till I had attained satisfactory results.

We have found varieties originating here, and south of this latitude, best adapted to this climate. Our warm suns ripen the more celebrated Northern and Eastern varieties too prematurely for permanence; hence we have labored untiringly to collect and cultivate the choicest fruits of Western and Southern origin, and now offer for sale, at our nurseries, the largest and best selection of fruit-trees adapted to this locality ever offered in Western Missouri. I sent a box of our new and rare fruits to A. M. Lawver, Esq., the great commercial orchardist and nurseryman of South Pass, Illinois, (who now cultivates more than one thousand five hundred varieties of apple-trees,) and he pronounced them 'the finest he ever saw, with more specific gravity,' and recommended them as the leading varieties for commercial orchards.

"Parkville is on the Missouri Valley Road, ten miles above Kansas City, in the great bend of the Missouri river, where, coming from the north, it turns to the east, affording a large body of timber which extends to the north and north-west some sixty miles, with a body of timber south, to check the south-west winds. Thus being well sheltered, there are no better lands. The country is dry and rolling, with sufficient lime, clay, potash, and humus for fruit. There is moisture sufficient for growth, and hot suns to color, and soft mellifluous breezes from the parched south-western plains to perfect the flavor; combining so many advantages that in size, beauty, flavor, and productiveness this immediate section is unrivaled, and we challenge the world to compete with us. The special point in which we claim precedence is the *quality* of our fruits, which is caused by our soft dry atmosphere and the S. W. winds which blow from the Great American Desert in the fall. Large bodies of water may temper the climate, but there is no flavor-perfecting influence in the damp atmosphere of the lakes or the ocean. The apples and peaches of California are comparatively flavorless. History informs us that Assyria and the Barbary States produce the most delicious fruits of the Eastern world, their flavor being perfected by the prevailing winds from the deserts of Sahara and Arabia. So this extension of fertile lands to the very borders of the grassy plains of the Great American Desert claim the *same advantages, and more—a better soil*. It is a noticeable fact that these south-west winds that blow in autumn are devoid of moisture in early fall, while, at the same time, we have little rain. Southern Illinois is an excellent fruit region, but they have more miasmatic dampness and fog, and a warmer climate. They may equal us in size and quantity, but not in weight and flavor. Our climate is favorable for the apple, and we have not known a failure since the country has been settled."

He appends the following notes of several new varieties that have been well tried there:

"PARK.—New, originated here, the longest-

keeping good apple known, retaining its freshness and fine flavor till July; large, yellow, covered with crimson stripes and splashes, beautifully mottled and shaded with a mellowed bloom, presenting a splendid appearance in the basket, quality best in spring and summer, just the sort to ship to Fort Benton in the spring to supply Idaho and Montana; as soon as known and disseminated, it will become the great market sort in Western Missouri. The original tree stands in an old Indian orchard, the noblest relic of the red man, where it has borne regularly for the last nine years, bringing fifty cents per bushel more than any other apple in the market. It is hardy, and the finest growing tree we have in the nursery; far superior to the famous Baldwin, Rhode Island Greening, or Northern Spy, in their palmiest days at home; the most valuable apple with us; scarce.

"LAWVER.—Originated here, just come into notice, and named after A. M. Lawver, Esq., of Southern Illinois, who deserves, for his untiring labors in collecting choice fruits from the South and South-west, to have his name ennobled and borne to future ages by this splendid fruit; large, very showy, bright dark red, smooth, of great beauty, crisp, crackling, flesh sometimes slightly stained with red, refreshing, rich cranberry flavor; excellent for table and for cooking; bears early and every year, keeps well; tree thrifty, hardy, and of handsome proportions; destined to fame; tree discovered last year; scarce.

"CAMPBELLITE.—Discovered and propagated by Mr. Todd, one of the best practical nurserymen of early days, a worthy pioneer in this great fruit land; resembles the White Winter Pearmain, but pomologists here pronounce the flavor superior; size above medium, greenish yellow, with a slight blush, quality best, the standard of excellence, tree thrifty, hardy, and productive, much sought after by our farmers; equal to the famous Newtown Pippin, or the Hudson; keeps into spring; scarce."

FRUIT LIST FOR CENTRAL ILLINOIS.—The Secretary of the Warsaw Horticultural Society presents this fruit list as eminently suitable for his latitude:

For making money, believe the Ben Davis is the apple; but for market and for home use, would want to plant about as follows—15 varieties, namely:

20 Summer—4 sorts, Red June, 10; Early Harvest, 4; Red Astrachan, 3; Sweet Wine, 3. 10 Fall—3 sorts, Fall Wine, 4; Rambo, 3; Maiden's Blush, 3.

70 Winter—8 sorts, Ben Davis, 40; Winesap, 10; Rawle's Janet, 10; Jonathan, 3; Willow Twig, 2; Westfield Seeknofer, 2; Danver's Winter Sweet, 2; Ladies' Sweeting, 1—100.

For an orchard not convenient to a good market, a less proportion of summer sorts would be advisable; but good early apples near a market will be found generally profitable.

Literary Notices.

THREE excellent books have been laid on our table by Messrs. O. Judd & Co., that are among the very choicest of all rural books ever published.

FARM IMPLEMENTS AND MACHINERY. By Jno. J. Thomas.

Wherever we find Mr. Thomas's name, there is always something good from his pen. Every line is written with a desire to instruct, full of choice, pithy, practical ideas, and graced with a charming simplicity of style, all the more pleasing and effective because so modest, and free from artificial effort.

We have never yet seen a volume which so happily combines and adapts the principles of natural philosophy to ordinary every-day use on the farm and with farm implements as is presented in this volume; while the common-sense descriptions and criticisms on articles of various use and manufacture are really valuable because they come from one entirely disinterested. Success to it! Every farmer should have it.

NEW AMERICAN FARM-BOOK. By Lewis F. Allen.

Another elegant and useful volume. Really, if Mr. Allen writes a few more volumes like this and *American Cattle*, the country can never shell out the dollars too fast to purchase them.

From beginning to end, the volume is admirably written, not a useless line or paragraph is to be found, and every sentence has an idea well and forcibly expressed. Practical books are the delight of the farmer, and he may well study the volume over and over again and never tire of the pleasant task. It is an indispensable volume for every agricultural library or the home-shelf of the farmer.

PARSONS ON THE ROSE. Revised edition, by Samuel B. Parsons.

We are glad to see the old edition of this really excellent book appear in a new form, entirely revised and newly illustrated. It is a complete directory of every thing pertaining to the culture of this popular flower from botanical classification down, through culture and treatment, to the romance associated with it, its history, and perfumes. The list of varieties is exceedingly valuable, and the remarks on the treatment of insects are probably second to no other part of the book in real, practical value. It is a book to be more highly esteemed now than ever.

If Messrs. Judd & Co. will keep sending us books always as fine as these, we will be sure to leave the latch-string of our office door continually open, that they may enter in and deposit their precious freight on our desks and tables. There is room for more.



Practical Hints to Fruit-Growers.

BY H. T. WILLIAMS.

No. 8.—*Benefits of Mulching.*

THERE are so many instances of beneficial results from mulching, applied to all kinds of fruit, that I would like fruit-growers to pay more attention and practice to the subject. It is so simple, so practical, so easy, and so excellent in increasing the health and productiveness of fruits, that, notwithstanding its moderate expense, fruit-growers will find it one of their most efficient aids.

No man should spare time or trouble in horticulture, if he wishes to save his fruits and increase their crops.

That good man, Downing, said, "If we were asked what practice founded on *principle* had been most beneficially introduced into our horticulture, we should answer, *Mulching*—suggested by the need of moisture in our dry climate, and the difficulty of preserving it around the roots of fruit-trees."

In this peculiar climate of ours, furnishing at one period of the year the scorching rays of the sun to wither and exhaust the vitality of many of our best plants, and then succeeded by the frosts of a stormy and severely cold winter, trying all varieties and putting them to the severest of tests with alas! too little comfort and success, I see one way by which we can maintain the life of a majority of our plants, and increase their health, vigor, and productiveness—namely, *careful mulching*.

Mulching means any sufficient covering of the surface of the earth; and its object is three-fold:

- 1st. To protect and preserve the plant from the excessive heat of the sun.
- 2d. To equalize the temperature, and preserve the soil and atmosphere uniformly moist around the roots.
- 3d. To keep the plant secure from the repeated frosts of the winter.

With all newly-planted trees or vines, a uniform degree of moisture is necessary; and the more perfectly this is furnished, the better will they flourish. If absent, however, they will languish for the need of it.

It makes but little difference as to the kind of fruit to apply it to. Strawberries love it, perhaps, better than any other, and give generous returns for the care bestowed. Raspberries are highly benefited, and many varieties are successfully grown this way that could be grown in no other. All kinds of standard and dwarf trees are greatly benefited, and large orchards are frequently saved by its use. Currants and gooseberries have yielded

better crops, and been more healthy and vigorous; while to vegetables and evergreens, the effects are no less marked and advantageous.

The materials to be used are very various; but the following are cheapest and most efficacious.

Decaying leaves. Almost every farmer or fruit-grower can obtain abundance of these from the woods usually so near at hand. It is quite an easy matter to harness up the team and cart, and drive into the woods, and with hoe, rake, and shovel, scrape up hundreds of loads of forest refuse. It is the very best of all mulches, as it is not only a protection, but contains the highest kind of fertilizing material, to be absorbed quickly by the plant.

Sawdust. Very many live where they can obtain an abundance of this. It may, splash some on the plants during the heavy rains, but it is better to apply it than nothing at all. It has the merit of cleanliness, and may be incorporated in the soil as a fertilizer or ameliorator.

Tan-bark is also excellent. I have used it with excellent success. Applying it one inch deep to strawberries, it formed a handsome path up and down between the rows, perfectly clean and free from weeds—forming a nice bed for the fruit to rest upon when ripe, and easily heaped over the hill at commencement of winter. The tannic acid it is said to contain, be it little or much, is assuredly quite a benefit. If used around evergreens, it should be applied two inches deep.

Even *stones and boards* have their uses. I have seen trees growing up from stone-heaps, and I could not help but notice and admire the size, vigor, and luxuriance of their stalks. Also, I have observed other trees growing by the side of a heap of boards loosely thrown about, or out of a lot of rubbish, or heaps of brushwood, that were far more thrifty than those in richer ground but more exposed.

Salt hay is probably the best and cheapest where it can be obtained. It is usually sold at a price of \$5 to \$10 per ton, according to distance from seaboard for delivery, and four tons per acre are needed for a good dressing. Those who are fortunate to live near at hand can get it by simply cutting and hauling with their own teams.

Straw, which some farmers waste far too freely, is also one of the cleanest and best; but, like old hay, it is liable to the objection of concealing the seeds of weeds, which, in course of time, will grow and take possession of the soil.

When mulch has been used more than one season and gets old, after the plant has done fruiting, either remove it, or apply manure upon it and fork it into the soil.

The use of mulch is a *great saving in labor*. If the ground is well mulched, no labor is necessary to till it. If strawberries are cultivated, the fruit will be more abundant, will be cleaner, easier and faster picked, and of a more uniform size and agreeable flavor. These considerations alone determine the value of its use by all those who grow for market.

On the score of economy, it costs no more to mulch an acre than to pay for the labor of cultivation a single season.

The Raspberry.—Very few have made use of mulching for the raspberry, and yet no treatment, however good, will do better. The treatment was tried this season by one of the Oneida Community, who says:

"I mulched a row of the Franconia, and also one of the Philadelphia, side by side. The effect was very marked. While the Franconias which were *not* mulched were literally scorched, and the leaves crumpled in the sun, the row which received mulching carried through nearly double the crop of fruit. The yield of the Philadelphia was also very much increased in quantity, and in the size of the berries.

"In my experiment I used old, half-decayed buckwheat straw. Some buckwheat came up, but this was quickly disposed of by the use of the lawn-hook. After stirring and cultivating the ground in the spring, the first of June is soon enough to apply the mulching. By that time the ground will have become warm, and the new cane will have made a good start. In case straw or other material is scarce, coarse grass, brakes, or flags, that grow in swales or swamps, will have grown sufficiently for the purpose. The material used may also, as it decays, be counted on as of considerable value to the land, in keeping it in good heart."

The best time for application, in my judgment, is just at the beginning of summer; but it often happens that the material for mulch is scarce at that time, and there is no resource but to wait till a later date. September usually finds an abundance in every direction, and a very convenient time.

Method of application.—For strawberries, apply between the rows, covering the ground completely; on the approach of frost, take a fork and cover the plants well. In the spring uncover, and allow the mulch to cover the ground again. It is well, once in May and once in September, to push the mulch aside and pass up and down with the cultivator. It has the effect of stirring the soil and increasing its power of absorption; and also prevents it from becoming hard and stagnant.

For raspberries, spread evenly over the ground, and allow it to remain undisturbed.

For trees, if the entire ground can not be covered, then apply all around under the branches of the tree, and a little out beyond the extreme edge of the outer branches. Let the earth slope like a little mound or rise of an inch or two, toward the trunk. Do not let the mulch come within six inches of the trunk. It is well to stir this mulch and the soil beneath at least twice during the season.

Although mulching is a very simple operation, yet beginners may err in applying too much to trees, and thus promote the growth of fungi or other diseases. Two inches is usually sufficient if the mulch is of a compact nature. But three inches at all events is an abundance. More than this can not be recommended.

Many of our best fruit-growers who have used mulching for trees consider it so important that they would omit any other point of cultivation than this.

Mulching, in nearly all cases, answers the purpose of watering. It is an excellent preventive against droughts, which so often injure newly-planted trees, and it is a good substitute for mellow culture.

For cherry-trees, it should never be omitted. One fruit-grower, who had planted one hundred and fifty trees, mulched fifty of them. Those that were mulched all lived. Of the hundred not mulched fifteen died. In other cases, the losses have proved frequently more serious.

If trees are transplanted late in the spring, they will either start late, or, even if a good start is made, will often fail at midsummer, from the parched condition of the earth around the roots. Watering even will often fail to save them. Indeed, watering is usually an injurious practice; for the roots are stimulated at one time of the day by the moisture and consequent coolness, and are only rendered more liable to the action of the hot sun at another; the surface of the ground is rendered more hard and less porous, and the free access of the air is cut off.

But if mulching is used at the time of planting, they will never need the necessity of watering.

Uniform temperature and a constant supply of moisture are the prime elements of success in fruit culture. Mulching enables us to accomplish this.

Mulching acts beneficially in other ways. It prevents, to a great degree, the *cracking of fruit*, and causes those varieties which are generally spotted and defaced to become clean and covered with a rich bloom.

I remember an instance which appeared several years ago, where a large pear-grower in New-Jersey used a thick mulch of old chips and iron waste; it acted as a preventive against cracks in fruit, also imparted a superior flavor, and increased the smoothness of the bark.

Native grapes, too, were tried in the same manner, which had previously been much injured by rot and mildew, and were saved from such diseases by using mulch alone.

It was applied very thick, five to six inches—a thickness which I think too heavy for health to be used constantly.

It may be safely said that a tree with only one half or one third its original roots, (if the top is shortened in proportion,) such a tree as would, nine times in ten, die with the usual treatment of planting and watering, may be invariably saved by mulching.

But, after all, remember one thing—that, if once commenced, it must be continued.

If omitted for a season, the innumerable tender fibres which have been encouraged to come to the surface will be exposed to the disastrous effects of parching sun and severe

cold of the frosty fall and winter. Your tree will no longer live or bear fruit. Mulching should be either constant or neglected altogether.

Of all our fruit-trees, none require mulching so positively as the dwarf pear. The quince roots are fibrous and lie near the surface; if we wish for a handsome and vigorous top, we must have abundance of sap and moisture.

Tolerable care in planting, with suitable mulch, will insure the safety of at least eight out of ten, while ten to fifteen per cent will die every year, or fail to do well, without it.

If those persons who have experienced so much dissatisfaction in the cultivation of dwarf pears will stir up the ground well, and apply a good mulch, they will find, after one season's trial, they have hit upon the *Golden Rule*.

We all love fruit;

"It ministers delight to man,
And beautifies the earth."

But to have it in constant, steady abundance, you must care for the trees as you would for the health and life of your own children. Mulch your *young* trees, if you want them thrifty and luxuriant. Mulch your *old* trees, if you desire fine foliage and fair, large fruit. Imitate nature in the woods and fields as she gathers the beds of leaves and moss around her trees.

A New Black-Cap Raspberry.

THE WESTCHESTER SEEDLING.

DURING our country rambles this summer, we had the fortune to visit the grounds of a friend at Tarrytown, N. Y., where our attention was called to a new variety of the black-cap raspberry, so striking in its merits and peculiarities, that we think it worthy of public notice.

It is a chance seedling which originated eight years since, in the yard of Levi J. Mabie, Tarrytown, who has cultivated the vine since that time for better opportunities of testing and fully demonstrating its value.

It is the strongest and most vigorous of the black-cap family we have yet seen, single canes unchecked reaching an average length of fifteen feet each season, and single shoots of several years' growth possessing six or more canes of the same character.

The fruit is large and firm, superior quality, best of all the black-caps in this respect; seeds small, exceedingly productive, and very hardy.

In comparison with the Doolittle, it has all the advantages of the latter, with the additional merit of ripening a week earlier; crop matures more uniformly and more together; better flavor, fully as productive, more vigorous, and berries will average larger.

The specimens we witnessed had evidently received no extra care, being grown entirely around the sides of a garden, and yet single stocks, of two years' growth, averaged from four to eight full quarts of berries. One cane, of fifteen feet in length, contained one hundred and fifty trusses of fruit, each cluster averaging eight to fifteen berries.

Another bush, grown within two years from a single cane, was so productive that although three quarts were picked from it, there still remained nearly six more just ripening.

As a rule, it is exceedingly prolific, and has a most healthy, vigorous growth. Grown as a field crop, by the side of the Doolittle, the produce was much greater and berries much larger and finer.

There is no doubt that it is a distinct variety, and although we aim to indorse no fruit until well tried, yet our observation leads us to believe it is a valuable addition to our present list of varieties, and desirable either for market or family use.



WESTCHESTER BLACK-CAP RASPBERRY.

What are the Merits of the new Varieties of Strawberries?

BY THE EDITOR.

THE spring strawberry exhibitions are over at last, and every one who loved fruit has had a glorious opportunity to taste it. The exhibition tables have been loaded down with hundreds of varieties, some of them tasted over and over again, while others have been touched only for the first and last time. The old standard varieties have not only maintained their popular reputation, but by reason of their increased abundance, size, and general lusciousness, have far exceeded previous years.

The new varieties of 1867 and 1868 have been fairly tested, and received, in the majority of opinions, a final judgment; while the new kinds of 1869, ambitious for either a local or national celebrity, have been as abundant as ever.

The strawberry has been known and cultivated for so many hundred years, and has increased so much in popularity and value every succeeding year, that it forms the very life of our horticultural literature, and if taken away, it would leave a void impossible to be filled.

The strawberry is the centre of our spring festivals, the delight of the farmer's or citizen's gardens, to whom it is the first fruit of the year, and, at last, the hope of the small-fruit grower. It brings health and pleasure to the city lover, life to the great marts of trade, and stays the hands of merciless disease or death. Easily grown, its produce is as abundant as the grains of harvest, its use is without a limit, while its very deliciousness keeps constantly alive the fire of sentiment, touched freshly, now and then, by the pen of some enraptured hand.

It is but a few years ago that strawberries were growing wild in our fields, or but few in our gardens, and none thought of them as adapted for market purposes; but of late years strawberry culture has assumed an aspect fit to excite the highest astonishment of "*the oldest inhabitant*," and the receipts of a single day *now* would have been more than sufficient *then* for an entire season.

The growing of strawberries for market has at last become a definite although not a perfectly settled occupation. The sudden fluctuations of the market, the indifference of cultivators to the best methods of cultivation, the natural tendency to over-supply from a crowd of impatient growers, too eager for large gains, all have their tendency to discouragement, and promise to give an aspect to the future of the business entirely different from the past.

Hitherto, we have aimed at *quantity* of fruit. The past two unfortunate market seasons are teaching us that this is not the only aim; other points are to be of prime importance: size, color, quality, firmness, weight, better methods of shipment, and right ideas as to safe distances for transportation. Although the taste of the masses is not yet educated beyond the Wilson, still it is becoming more discerning year after year, demanding better fruit, larger fruit; the finer varieties are better sold, and more practically encouraged, while fruit of choice character of any variety is welcomed more than ever.

New strawberries have been so abundant the past ten years, that none but an active horticulturist could keep pace with them and test their value. A single variety, never known before, will suddenly appear at a fruit exhibition, is placed by the side of others of known standard excellence, and, being developed with special culture, overtops them all like giants, and bears off all honors of highest value. The next year, with its reputation still new and fresh, plants are largely sold, the originator realizes his small fortune, the purchasers try their new-found bantlings in a variety of soils, with such varying success that two years hence they are remembered no more.

So often has this been the case that, though new varieties are cordially welcomed, with the hope of the advancement of horticulture, yet they are practically patronized with so critical an eye that few yield assent and encouragement until there has been a full experience and a satisfactory record. Instead of purchasing it eagerly the first year, as though it were a treasure, wise persons wait until the second or third year, in order to learn from others as to the real qualifications. To such common sense as this have we at last come, and most cordially is that spirit to be commended.

During the last spring, in our editorial capacity, we visited as freely as possible a large

number of fruit farms and gardens in different parts of the country, observing the success of old and new varieties upon differing soils and with different modes of cultivation, either for market or private use, and also attending quite a number of fruit exhibitions of considerable value, so that our notes of observation have become of sufficient value to give to an interested public.

We record facts only, and in an entirely disinterested spirit.

The Nicanor, of which we have felt the strongest hope for the credit of the disseminators, has proved of only second grade value. It is a very strong grower, under favorable circumstances, and produces an immense amount of fruit; but the berries are uniformly small, very few of large size—certainly not as large as the largest grades of Wilson; quality not a true strawberry flavor—resembles more nearly the taste of a dead-ripe gooseberry; does not adapt itself to all localities, having proved a failure generally on light, warm lands; it lacks firmness, as well as size, to such a degree that it will never be desirable for market, although very suitable for amateurs in lists of fruit for family uses.

The Dr. Nicaise, another European variety of monstrous size. Many single berries have measured seven and a half inches in circumference, and one and a half inches or more in diameter; color white, slightly tinged with scarlet on the surface; flesh very soft, easily decays; it may be said to have no flavor at all, neither sweet nor acid; is an indifferent grower, producing very little fruit, and that in irregular years. Is a curiosity for the sake of its size, but of no other value.

Stinger's Seedling.—In the neighborhood of Philadelphia, where it originated, and is grown on warm soils, it is quite promising. Is tolerably early; wherever successful, is very productive; quite hardy, but even more acid than the Wilson; flesh not firm enough for other than a near market; berries of large size, very showy and scarlet. Near New-York, it is not counted among the best varieties, and is generally not adapted to cool heavy soils, or a northern climate.

Boyden's No. 30.—Of all the very large varieties, this is beyond a doubt the best. Plant a strong grower, exceedingly so in some localities, quite hardy, very productive; berries extremely large, and uniformly regular shape; a dry, compact skin, red seedy color, and quite agreeable but not decided flavor. The neck is long, and the tendency of the berry to soften rapidly will prevent it from taking rank as a market variety. Is very desirable for fancy purposes, and gardens of families and amateurs.

Scott's Lady of the Lake is a good strong grower, quite productive, flesh moderately firm, has a very good flavor, but with rather a tart base. The best we can say at present is, that it is quite promising, possessing some merits of good value.

Barnes's Mammoth.—This is in every respect, as far as we have had observation, a splendid growing plant, and a beautiful berry; has done well on either light or strong soils; has a fine, deep red color, just the tinge most popular in the markets; exceedingly firm, a little acid, but not as much so as the Wilson; solid all through, with a crimson flesh to the centre. We consider it now the most valuable berry for market purposes yet produced. Its uniformly large size will command prices of one half to double over those obtained for the Wilson Albany.

Romeyn Seedling.—It is hard to see the difference between this and the real *Triomphe de Gand*. A stranger would not know they were two different varieties; plants of both varieties, grown side by side on nearly all the farms that we visited, proved precisely similar in growth, berries, size, color, and flavor. Nevertheless, it is fair to say that we have tasted specimens wherein the flavor was entirely distinct from the *Triomphe* grown under the same circumstances. As far as we have had observation or made inquiry, we believe that on warm, sandy soils south of New-York, it will grow and thrive where the *Triomphe* will not.

Whether the same as the *Triomphe* or not, it is a valuable variety, and much improved in the respect of better adaptation to different soils.

Triomphe de Gand.—This old standard European variety is still the most profitable of all the market varieties. Though not quite as productive as the Wilson, still its large size, finer flavor, and better color will command more remunerative prices. Is late, but a paying variety. Will average as many large berries to the plant as either the Wilson or Barnes's Mammoth, and is free from such a mass of small ones as the former possesses.

Requires good, strong, cool soil, and deep cultivation ; grown only in hills, and deeply mulched.

Durand Seedling.—Produces very fine berries, quite firm, good color, good size, but is only second or third rate in productiveness.

The Agriculturist.—What an immense acquisition this would have been had it possessed a reasonably firm flesh and good flavor ! Its beauty now is entirely in its looks. Uniformly, it is a splendid grower, quite productive, berries large and handsome, shows to advantage when sent to market, and brings excellent prices ; but is too soft, and quality absolutely wretched.

Jucunda.—A variety very remarkable because it succeeds so well in so few places. As a general rule, in all parts of the country east of Pittsburg, it has only a very indifferent success. On light soils, it is almost impossible to keep it alive, and on other soils more often a failure than a success. Is a very showy berry, flavor fair but not decided, large size, and as productive as the *Triomphe de Gand*, but we have never seen it more so.

Charles Downing.—A seedling raised by J. S. Downer, of Fairview, Ky. It has not been our fortune, in years, to meet with a variety which combines so well the merits of quality and productiveness as this. In quality, it is far superior to a majority of the new kinds, and really better than any of those we have already named, although it has a little acidity about it which the *Triomphe* or *Jucunda* do not possess.

In size, it is uniformly large, color bright red, changing, however, on exposure to a duller look ; flesh moderately firm, juicy, sweet and high-flavored. The vine is hardy, a vigorous grower on either light or heavy soils, exceedingly prolific, and of rich dark foliage. It is not firm enough for distant markets, but sufficiently so for distances of fifty miles or less. There is a slight tart taste at the base of the berry, but in the abundance of fruit it is scarcely noticeable.

This is really one of our greatest favorites, and the best of the new *American Seedlings* to the present date.

The Napoleon III.—Here is a surprise indeed. We believe it is a European variety, considered hitherto of very little moment ; but after our observation of its results here, we can not find words to express our intense admiration of its real excellencies. To call it delicious would not give the reader an iota of an idea as to its superb quality. Grown by the side of one hundred of the very finest varieties America can produce, there is not a berry grown, save the *Lennig's White*, that can equal its beautiful aromatic flavor. Its hardiness will rank among the best, and its vigor and productiveness exceed any thing we have yet seen. The berries are of largest size, a splendid scarlet color, quite firm ; flesh solid to the very centre, and borne on an exceedingly stout stalk. It ripens late, a little after the *Triomphe de Gand*, hence will be desirable only for late market purposes ; but no family in the country should fail to have it.

In response to our careful inquiry in different sections of the country as to its real merits, and how it succeeds on varying soils, we find the uniformly good report, "It has given a splendid record."

In common with many others, we were disposed to slight it at first, as no better than other varieties already in cultivation ; but this season has removed every prejudice, suspicion, or doubt, and we now confidently assert that it is the finest strawberry grown in America.

Future seasons may or may not show as favorably as the present one has done ; but our decided faith in it leads us to believe that it has only just begun a successful and triumphant career. We shall watch it with deep interest.

Abraham Lincoln, President Lincoln, The President, all one and the same variety, not a particle of difference, and that the *Jucunda*. Buyers, take warning !

Boyden's No. 20.—A good looking berry, firm flesh, fine color, but quite tart taste. The public do not want any more acid berries.

Laurella.—A strong-growing plant, very productive, sound, good scarlet color, but sour taste ; not equal to the *Wilson*.

Globe.—One of the hardest berries grown, but stringy, and indifferent taste.

Colfax.—Growth and flavor similar to the *Brooklyn Scarlet*. The most productive strawberry known, when in favorable position.

Naomi.—A very poor flavor; not worth having.

Gloedé's Perpetual Pine.—A humbug; a weak, tender thing.

Great Eastern.—Immensely prolific, berries average very large; rather acid, firm enough to send to market; very hardy; very late.

Bishop.—A new variety from Canada. A. S. Fuller has tried it, and found it good for nothing.

Caucasian.—Very pretty looking, sweet, but not highly perfumed.

Rippovam.—Very good as far as tried.

Scott's Seedling.—A long, hard berry, very peculiar flavor, poor, berries below medium size.

Golden Seeded.—Does not bear at all—can hardly see any berries.

The Three Generals.—A remarkable trio. All with good names, but not able to survive them.

General Sherman is the best, yet poor quality after all.

General Meade.—A very rank grower, tolerably productive, good size, and fine glossy color; but the less said about flavor the better.

General Grant.—So small and poor that it will not be heard of after this season.

We must protest against this unwarrantable liberty of giving good names to poor varieties of fruit. It is not pleasant for a gentleman of enviable national reputation to have his name banded about the country attached to a variety of fruit or vegetable, invoking sharp criticism because absolutely worthless. No individual's name should be used for such horticultural nomenclature without his full consent.

What shall we say of a host of other varieties of mediocre value, which, because of their inferior size, poor flavor, irregular or indifferent productiveness, are hardly worth discussing?

It is sufficient to say, that, of all strawberries, the finest flavored is the Lennig's White, a perfect delicacy to the epicure; and of all the poorest, the Mexican Everbearing is without a competitor.

Within this wide range there are gathered, as it were, on the successive steps of a long ladder, a graded series of varieties higher and better; and as old ones drop off, new ones fill their places, the entire character constantly improving, until ere long there will be a grand galaxy of strawberry stars, fit to please the eyes or palates of kings, as well as us humble peasants and horticulturists who aim to do so much that is good and honorable for our American Horticulture.

American Wines—What they could and should be to America.

FOREIGN wines and brandies drain America annually of about one hundred million dollars, thereby enriching the countries that produce them, while we fail to benefit our own country to at least double the amount annually in encouraging this important industry.

Not our ability to produce any quantity of grapes, fit for excellent wine, is in doubt, but to manufacture the wine. By employing the old prevalent modes we can not compete with Europe in wine, because the storing for many years, incidental to the old mode of fermenting, enhances the cost here out of proportion with Europe. Only when we adopt modes of wine-making by which long storing is dispensed with, and the losses now otherwise incurred by spoiling prevented, we shall be able to exceed on our continent the annual production of wine in Europe, (above 3600 million gallons), while the production in large quantities of cheap, pure, and wholesome home-made wine will insure its adoption as a habitual drink, to counteract the present deplorable taste for spirits, more powerfully than all the unjust or fanatical prohibitory liquor laws.

The only rational mode, and the only one known in the reach of the least experienced, the smallest as well as the largest producer of wine, is *air-treatment*, a California invention,

patented 1867, and proved to give unfailing satisfaction. Worked by this process, the wine about two or three months from the press is fit for shipping, ripe and free from all ground taste, the unpleasant property of nearly all American wine.

According to an old, deep-rooted prejudice, bordering on superstition, air had been considered injurious to fermenting beverages—and by uncontrolled surface contact it certainly is. Its access was scrupulously excluded. In consequence, the fermentation was imperfect, the desired elimination of the gluten—which causes not only the ground taste and want of smoothness in wine, (beer, cider, etc.,) but all after-fermentation and wine diseases—was not completed with the fermentation, but required in most American wines several years to be fully accomplished, to secure the wine against deleterious changes by after-fermentation in shipping and storing. That is to say, the air, gradually permeating through the walls of the cases, in connection with occasional racking of the wine, effected the desired improvement, the oxidizing elimination of the gluten.

But quite different is the action of the air passed through the must, etc., during fermentation, when all is accomplished in a few days perfectly, and, as above stated, the wine will be ripe and pure, proof against any after-fermentation or wine disease, in a few months. The practical application of the process requires merely a perforated pipe at the bottom of the ferment-tub, through which, by a connection with the air-pump, the air is urged in for a few minutes at a time, two or three times a day, when the fermentation of any must (cider, etc.) below thirty per cent sugar is finished at a temperature over sixty-five to seventy degrees Fahrenheit in about five days after foaming, and the clarification very rapidly proceeds.

Limpidity and clearness only, it should be remembered, form no criterion of the purity of a liquid, for deleterious nitrogenous substances, gluten, may be held in solution, which give it a harsh, rough taste, (young wine, beer, cider, etc. :) oxidation renders gluten insoluble, and eliminates it simultaneously with the ground taste and harshness.

As any previously badly fermented wine can be quickly finished at any time by air-treatment, slightly mouldy, fusty, or otherwise impaired wine, (except by acetic acidification.) can be speedily restored to soundness; while any must or other fruit-juice is carried through fermentation without fail or risk of souring within the specified time—we have in this simple natural application of air, the source of all organism, the means to enrich our country materially and morally beyond calculation.

Progress in knowledge of the laws that rule the universe continually upsets time-venerated prejudices and superstitions by teaching to respect, appreciate, and properly apply agents formerly overlooked. Air, the most active agent in all organic economy, requires only to be known as our fast friend—not our enemy, as formerly erroneously believed—to stimulate industries yet dormant, and to invigorate those already existing into new life, the former preëminently represented by the American wine production.

R. D'HEUREUSE.

A New Pear—The Souvenir du Congrès.

DESCRPTIONS and illustrations of this promising new variety appeared, in 1867, in the *Revue Horticole*, of Paris, as follows:

"The fruit is large and very large, resembling in form the Bartlett, Colman, and d'Arrenburg, and sometimes the Uverdale's St. Germain, which it frequently rivals in size; rarely, it resembles the Duchesse d'Angoulême. The skin is smooth, of a handsome yellow at maturity, washed with bright red, or carmine, on the side exposed to the sun. Flesh much like the Bartlett, having the musky flavor, though in a less degree. Its maturity commences in August and continues into September."

"This pear was originated by M. Morel, of Lyon Vaise, and by him dedicated to the Pomological Congress of France. It was exhibited at the Universal Exposition in 1867, and was awarded a first prize. The tree is one of the most vigorous and fertile; naturally pyramidal in form. The fruit is borne singly and in clusters of two or three, adhering well to the tree."



FRANZENBERGER - SC. ROGIL N. Y.

Mr. P. Barry, in a letter to the *Rural New-Yorker*, speaking favorably of its merits, adds a quotation from a letter of Thomas Rivers, the well-known English horticulturist, to this effect:

"I keep on importing new pears, and bring them rapidly into bearing by potting them and placing them in an orchard house. As a rule, they are sad rubbish. I am induced to think, however, that *Souvenir du Congrès*, a seedling from the Bartlett, will be a great success. It often weighs two pounds, and ripens eight to ten days before the Bartlett. It is also very handsome."

Star Papers.

1.—Does it pay to grow Strawberries?

I AM glad to see people coming to their senses at last. I met a strawberry-grower, the other day, who had sent all his crop to New-York, and asked him what he thought of strawberries.

"Well, I've made up my mind that strawberries don't pay. Here I've been raising three acres of them for three years, and I have not made as much from them as from that ten-acre corn-field yonder; I have just plowed up all the bed, and I won't do a thing more in them until either half have gone out of the business, or the population that eats them is doubled. I have not cleared one hundred dollars an acre a year; it's my opinion, the business is *overdone*."

"Well, what makes you think so—will it not pay a man to send good fruit to market?"

"It may for a while; but I have found that since they have commenced raising strawberries in Delaware, Maryland, and Virginia, and even North-Carolina, and shipping to New-York, we New-Jersey people have got no chance at all. Our season is crowded into less than two weeks; our soil is light, and berries not as large as they ought to be; and then we have had so poor returns that we did not feel like taking first-rate care of our places; and I suppose our fruit is poor too. The fact is, that many have gone into the strawberry business that did not know any thing about it, and only thought that it was necessary to raise a strawberry, and every one would eat it; and there are so many such that there is more fruit raised than people in the cities will buy. Even if people do raise good fruit, the poor fruit drags it down, and all suffer alike. I shan't grow strawberries for five years to come; and it would be a good idea for lots of others to do the same, and go to raising corn, oats, hay, etc. No more strawberries for me. *I've been there!*"

This man is a good specimen of thousands who have been attracted by the high prices that strawberries brought three years ago. He went into it pell-mell, like the rest, took as fair care of his place as the rest; and at the end of that time found that if he had spent his time on the regular products of a farm, he would have been better off in spirits, health, and purse. He has come to a wise conclusion, and there are others that must follow suit.

2.—What does it cost to grow Strawberries?

It is generally supposed that strawberries can be raised at a profit for ten cents a quart, and that even if sold for six cents, no money is lost. I have been canvassing the question well, and I must admit that there is no money made in growing any kind of berry at ten cents a quart, and every cent a quart less than that is a loss.

I asked a careful grower, the other day, after his crop was all over, *what it cost him to send his berries to market?* He is one who has had the benefit of experience, thoroughly understands the markets, when to send, how to send, to whom, raises only a superior quality of fruit, and his season is a week to ten days in advance of New-Jersey; and he replied,

"From six to seven cents per quart, for shipping to market. Of this, two cents is for picking, two cents for freight, and two to three cents for commission, cartage, and incidentals. This is exclusive of expense of cultivating the land."

What was your outlay for Berry-Baskets?

Answer. \$100 for every acre in cultivation. I do not receive them in return but once a week or ten days, and can not use the majority more than once. I use only the best kind.

What does it cost you to put out an Acre and cultivate to the first Year of Bearing?

Answer. \$125. This includes cost of plants, labor first year, manuring, and mulch. My total expense, exclusive of cost of land, and inclusive of berry-baskets, for getting a first-rate strawberry plantation into bearing and just sending fruit to market, is \$225 per acre; after that, seven cents expenses per quart for sending to market.

What is your Production?

Answer. I am satisfied the first year with 1500 quarts, and the second year 2000 quarts to the acre. I grow only the Wilson, send only big berries, and assort my fruit carefully. My beds are planted out thirty inches apart, and plants in hills one foot apart. The ground is carefully cultivated the first year, and no weeds allowed to grow. I manured my plants with bone-meal three times the first year, 700 lbs. per acre. In the fall, I cover the plants with mulch, and the next spring, after uncovering the plants, permit it to remain in rows. I find that, though it makes berries late, yet it doubles the crop, and I have better berries. I should consider 3000 quarts per acre, for a field of several acres, a very large yield indeed, and few plantations are able to reach it at any time.

What Prices do you get?

My first shipment of fruit brought 18 to 24 cents per quart; but these prices lasted only a few days, and at last the bulk of my crop brought but 12 cents. My fruit was nice, but there was too much in the market, and I had to suffer like the rest. It does not pay me to ship after my first ten days are up, because other localities north of me begin to send the burden of their crop; and mine, not being so large or so fresh, are closed out at any price.

The Wilson, too, is the only variety worth growing; but the last half of the crop is too small and unfit for any purpose whatever.

I consider strawberry-growing not the remunerative occupation it once was. The New-York and Philadelphia markets are the poorest markets in the country; a good home market, near a large town of five thousand inhabitants or upward, with prices of fifteen cents per quart, and not over two acres in bearing, will enable the grower to make money.

But with the present condition of the business, simply growing strawberries for large markets, the very highest receipts, as an average, will not exceed \$250 per acre, but rather, few will exceed \$150.

As to the majority, who grow strawberries in a careless, slipshod manner, the average receipts are not over \$100 per acre, and more than half of this sum expenses.

What would you advise Beginners?

My best advice is, not to buy a farm expecting to pay for it out of the proceeds of the sale of small fruit. It is a very uncertain, deceptive, and generally discouraging occupation as to profits—very pleasant as a pleasure only. Do not touch strawberries; for if you do, you will touch bottom pretty quick. Beware of fruit fevers and manias; the people will get tired soon of raising strawberries for nothing, and will be ready to rush into something else. I think we are to have a blackberry fever next; every body is planting blackberries, and there will be an abundance of them soon at low prices.

Raspberries are very costly to set out, but will pay steadily remunerative prices for years to come; but the question of varieties and adaptation to different soils is far more puzzling and difficult than that of any other small fruit. I must confess that the culture of small fruits does not offer the inducement it did several years ago. It is impossible to get receipts of \$500 per acre and upward any more. On the contrary, figures of \$150 to \$200 will be more frequent. My advice to those already in the business is, reduce your plantations one half, take better care of the remainder, and they will then begin to make some money, but not otherwise.

3.—Mulching.

Although for a long time a believer in mulching, yet I have never seen so striking benefits from its use as I have this year. Nearly every one who has observed strawberry

plantations could not fail to notice that the majority were grown up completely with grass, or if grown in hills and cleanly cultivated, still the fruit was gritty and produce not very great. I observed this spring a model farm, in its way, where the owner applied \$25 worth of mulch per acre to his strawberries, covering up the plants completely during the winter, and after brushing aside in the spring, allowing it to remain between the rows until after fruiting time had gone. Such fine, vigorous, healthy plants I have never yet seen, while the produce was fully double that of plants of same age, on plain ground, without any mulch. I could not fail also to notice that the quality of the fruit was much superior, the average size much larger, and, more singular than all else, an absence of small berries. This is especially remarkable, since the Wilson's Albany almost always runs small in the latter pickings.

I have observed the effects of treatment on trees, and I have found that where newly-planted trees have been mulched, at the end of the second year they are fifty per cent healthier and larger than those planted out at same time, and not so well treated.

Now, with so plain and convincing facts before me, I think that really careful mulching has more to do with successful horticulture than any other practice that can be named. Cultivation is essential, and must not be neglected at proper times; pruning and thinning, and searching for borers or worms, are no less important; but that little layer of mulch over the roots of the tree, furnishes just such a cool, equalizing moisture to the soil as to delight the roots into increased healthful activity, and produce results far ahead of any known process of stimulation.

My methods of management would be to mulch every thing, strawberries, raspberries, blackberries, grapes, pears, cherries, and, in fact, all standard or dwarf fruits. I believe there is a double gain—not only in the saving of labor—for mulching keeps down the weeds—but in *doubling the crop*, and producing it more uniformly year after year.

To realize best results, apply the mulch just before winter; let it remain undisturbed until just before blossoming time next spring; then push it aside for a few days, to allow the soil near the fruit-vines or plants to be warmed; stir the soil a little with the cultivator if it can safely be done, without disturbing the roots; then replace it and let it remain during the entire summer and fruiting season; and again stir the soil in the fall before replacing for winter.

If the mulch is allowed to remain in the spring unmoved, the inevitable tendency will be to ripen fruit late, sometimes very late. By skillful handling, mulching may be applied in such a way as to retard an entire field a full week; and in cases where early fruit frequently gluts the market, this little practice will often prove the salvation of the grower. Currants or gooseberries can not be grown on sandy soil without mulching, while many garden vegetables, especially tomatoes, are immensely benefited. Beginners will often apply it *too thick*, thus excluding air and sun, and breeding mildew or insects. Two inches is fully deep enough for an orchard, and one inch for a strawberry bed. If an orchard is mulched, it is best to apply it to the entire surface, rather than to the roots of single trees; for the little rootlets extend far out beyond the lines of the branches, and being the most numerous feeders, are really the most important to receive attention.

I shall always maintain the belief I have long indulged in, that, if all the trees taken from our nurseries were *mulched*, as well as properly planted, fully ninety per cent of those now lost by neglect and decay would be saved, to astonish the owners with the result of good treatment.

4.—Overstocking the Fruit-Market—Can it be done?

I confess it is hard to give a perfectly satisfactory answer—the experience of individuals is so different; and I generally find that those who have least practical knowledge of the subject argue almost uniformly of the impossibility of such a thing.

The editorial fraternity, who are to be highly applauded for every effort they make in the interest of horticulture, sometimes step beyond the bounds of prudence in their delightful panegyrics of fruit-culture, and cry, “More fruit!” “*More fruit!*” to the sorrow of many a fruit-grower.

Then, again, at other times I have been sometimes pleased, sometimes provoked, at the ignorance and stupidity of some who will never grow any thing because of the danger of “*glutting the market.*”

Such people generally never come to the great city, never visit our commission men, and

know nothing about best varieties; for if they could once see the magnitude of our market fruit-trade, they would be a little astounded.

The truth between the two above theories of "*too much fruit*" and "*too little fruit*" is simply reached by a few points of agreement.

As a rule, our city population do not eat fruit enough. Any one who is in the habit of visiting the dwellings of the poor knows that very little fruit and only a small variety of vegetables reach their tables constantly; they have not the means to indulge in such luxuries as these constantly; and even if fruits are cheapened in price, still their tastes do not increase in proportion to the reduction. It is a fact, to be sure, that our cities are constantly growing larger, and that the number of new eaters of fruit increases in like proportion; yet the production of small fruits has been so stimulated within the past three years that this year, for once, we have had the satisfaction of seeing a veritable glut—more good fruit than could really be sold at any fair price.

In one single day there have been received in New-York 400,000 quarts of strawberries, while for days the average receipts will be from 100,000 to 250,000 quarts.

A shipment of 100,000 quarts to Chicago is sufficient to cause a panic in prices, and while there was abundance of fruit for all, still there were many "*baskets left*" of which none partook.

Prices generally have been unsatisfactory this year, and it is an unwise policy to encourage the growing of an article in which too much money has been lost already, and of which the future gives no brilliant prospect.

Occasional gluts are sure to occur in even the best markets. The appetites of consumers demand *steady supplies*; if the stock is short, prices are high. But it frequently happens that heavy shipments in one day to a single market prove greater than the regular demand, and as a result there is seen a fearful crashing in prices; this continues until the market is relieved, and supply and demand continue equal. Thus perfect harmony is again created, until at some other time shipments from another point are so heavy that a decline is inevitable. These occasions are inevitable, and no cause of fault; but they open our eyes to the fact that small-fruit culture, to be profitable in the best degree, should be conducted with a view to a *steady supply of fruit* and as little change as possible.

With steady supplies there will be uniform prices, the demand will gradually increase, and profits be more surely and easily made.

It is well, then, to caution growers *not to mass together too largely at any given point*, but should be distributed over a large area, ranging from very earliest to the very latest.

By such a wise economy as this, fruit-culture can be made regularly remunerative, and gluts rarely or never occur to disturb the market.

It may be set down as a rule, that choice fruit will never experience the danger of an over-supply; and it is this only which really pays the grower well for his trouble.

WAVERLEY.

RICHARD ROLLIFFE.

Plant New Strawberries.

BY WALTER ELDER, PHILADELPHIA.

AS there are now many valuable new varieties of strawberries worthy of general culture for their thrifty growths, great productiveness, with fruits of superior excellence, of which readers may learn in the advertising pages of this paper, here is a simple mode to insure success and a speedy increase of plants, which we have practiced for many years without a single failure.

Set a cold frame in a sheltered spot, facing south or south-east, the back ten inches higher than the front; spread rotted manure over the surface three inches thick, dig deep, mix well, and break fine. If the soil is heavy loam, spread sharp sand over it an inch thick, and work it well in with hoe and rake; smooth the surface and set the plants sixteen inches apart each way; give a good watering, and place a glass sash upon it, and shade the plants from the sunshine for three days, from eight A.M. to five P.M., but take off the sash during nights for the plants to get the benefit of air and dews. After the third day, give an hour

more sunshine every morning and afternoon until they get the whole; but the sash should be off while the sun shines during August and September; give plenty water when needed, and be sure to let the plants get all the rains that fall, as no artificial waterings are so good. Stir the soil gently with hoe once a week, and, in very hot sunny days in August and September, it is good to shade the plants from ten to two o'clock, even after they are well rooted. When nights get cold, put on the sashes; but give air and light in daytime, so as to encourage growth, until winter sets in. Late in November, bank up the sides of the frame with soil and cover the sash over nights. In all mild days of winter give air and light. About the first of March, in spring, begin to encourage growth by heating with sunshine and the sash on, and cover well over nights. By the middle of April, there will be many young plants upon the runners, which will be fit to set out in the open ground. Set them sixteen inches apart, and the rows three feet wide. Leave the main plants in the frames, and they will produce an early crop of fruits and their qualities will be known. After the fruits are ripe, remove the sash and leave the plants to nature, except keeping them free of weeds; they will make a numerous lot of young plants, to be set out in beds in August or September, which are the best months (apart from spring) for transplanting strawberry plants.

We would advise all lovers of good strawberries, and growers for sale, to try the new varieties; a dozen or even half a dozen plants, by the above mode of culture, will give a rapid multiplication of plants and an early taste of their fruits. We advise to get the plants in August or September, and a greater growth will be made before spring. We have planted in October and November by the above mode and succeeded well, but then the frames have to be kept as warm as the sunshine will make them in the daytime and cover well up over night.

A Model Church.

UPON the opposite page is presented a design for a church in Philadelphia, of more than customary artistic taste. Although our most expensive and tasteful churches are built in the city, yet no one in the habit of traveling in the country can fail to notice that the popular taste for improved cottage and villa residences has worked also a complete change in the styles of church architecture.

In the olden days of several generations since, old wooden churches, with or without shaky towers, and hard, high-backed seats within, uncushioned, were coexistent with old red school-houses and plain furniture.

Modern times have changed old ideas of economy, and we find to-day a higher appreciation of the beauty of art, with more attention to interior comfort, and a greater fitness of location.

Many an old church building still remains, cherished by an honorable feeling of respect, but new societies have grown out of it, or spring up around it, and these, with tasteful edifices, are imparting a life, variety, and beautiful effect upon the village or city where they are placed.

The style of the present illustration is known as the Venetian-Gothic—with a tendency toward the former, evinced mainly in the use of different kinds and colors of stone in the exterior walls.

A special feature of the design is the tasteful choice of inscriptions of scriptural epithets and texts in prominent positions.

Beneath a cross, which finishes the apex of the transept gable facing the east, is carved, enriched with foliage, the words, "Agnus Dei"—and following them at intervals, similarly carved, are the words "Lux," "Dux," "Lex," "Rex," "Alpha," and "Omega," and lower still the text, "Blessed are all they that trust in Him;" while around the great arch, spanning the porch and rose window above it, are seen covered the rose, the lily, wheat, the vine, the lion, the crown, and the star, symbols which need no translation to those who know the blessings of a trust in Him who is "The Lamb of God," the "Light of the World," "Our Leader," "Our King," "The Alpha and the Omega," "The Rose of Sharon," "The Lily of the Valley," "The Bread of Life," "The True Vine," "The Lion



of the Tribe of Judah," "The Crown of Glory," and "The Bright and Morning Star." Beneath the window, a band of foliage is carried across the archway, and bears the text, "He shall feed his flock like a shepherd."

Below it again, on each side of the porch, are carved on gablets, bearing the symbols of the four Evangelists, the words, "We are his witnesses," while the porch itself, adorned with polished pillars of porphyry, whose capitals are carved with olives and palm branches, shelters, under the overhanging arch of the door, a group in relief, a "Christus Consolator;" and the inclosing text,

"Come unto me, all ye that labor and are heavy laden, and I will give you rest."

We are indebted to Samuel Sloan, of Philadelphia, for illustration. The architect is Mr. Edward T. Potter, 56 Wall street, New-York.

Hardy and Half-Hardy.

No. 2.

BY R. M. COPELAND, BOSTON.

WHEN last discussing the capabilities of plants, the test of hardihood used was their power of enduring or resisting sun and wind. Let us now turn to those which are liable to be injured by cold. Actual cold, such as is measured by very low mercury, is not generally so much to be dreaded, as the changes in the latter part of winter and the early spring, when the heat of the sun is sufficient to arouse the dormant energies of the plant and partly set the sap in circulation: a cold night following a bright day freezes any sap which may have liquefied, and bursts the cell-walls which contain it.

A few freezings and thawings are sufficient to rupture the general tissues of the exposed side of the tree, and destroy its vitality. If the whole tree does not die at once, it becomes lamed, and rarely rallies sufficiently to be worth preserving. There are some trees, it is true, which, resisting all the spring changes, die under extreme cold. It not unfrequently happens that some kinds of tender fruit-trees, like the peach, will live through severe frosts, until some of the periodical cold snaps come when the thermometer falls many degrees below the point commonly expected to be the lowest of winter. After this the buds are found to be dead in the germ, though they may blossom.

Ornamental trees suffer in ways which are equally vexatious, and sometimes more serious than the loss of a fruit crop. If we have with pains carried some pet tree or shrub through several winters with safety, and begin to feel assured that it is hardy, it is unmeasurably vexatious to have another winter—which does not seem more severe than its predecessors—pass its breath over the favorite, and leave it alive only at the roots, or kill it even in the ground.

But such troubles are common to every cultivator of trees and shrubs, and so frequent that many become impatient of experiment and refuse to plant any but the most common trees. There is a wide field for trial in ascertaining the limits of hardihood, and we ought not to be discouraged by single or even repeated failures, because we do not try enough experiments to be warranted in converting our experience into general rules or axioms. For instance, take the winter of 1867 and 1868 as an example. This was an exceptional winter all over the country, and trees which had withstood many previous attacks succumbed. It could not have been from the general cold—because as a general rule the thermometer did not go lower than it had often gone before; but the cold was persistent and the severe periods frequent, although not more so than had been known before. Yet during the winter and spring, trees died all over the country, many dying which no one doubted were, in their peculiar localities, hardy. The degree of frost is certainly no proof, nor its continuance; for trees stood perfectly well at Fishkill on the Hudson which were swept away in the vicinity of Boston, and some even lived through the Fishkill winter which died at Flushing, Long Island. There was during that winter and spring some peculiarity in the air; something was present or absent which caused the mischief independently of cold.

Among the mountains of Vermont, hemlocks died in field and forest where they were natives of the soil, in as large numbers as in cultivated grounds of cities; yet no one doubts

that the hemlock is a hardy tree. In many cases, the trees which died were exposed to strong north-west winds, but others were sheltered from these winds. This mixture of facts and experiences confuses the amateur and makes it doubtful which trees he should plant; but instead of discouraging him, it should encourage him to use a great variety of trees, and large numbers of the same kind—for instance, the rarer *Piceas*, *Nordmaniana*, *Cephalonica*, *Amabilis*, *Pinsapo*, etc., or *Abies Menziesii Orientalis*, *Douglasii*, or *Pinus Laricio Pyrenaica*, *Hartwegii Sabinianum*, and others, *Junipers*, *Yews*, *Thujas*, too numerous to mention, which are very beautiful trees, but are called tender. How do we know that they are tender, or will not succeed if we take sufficient care, and plant them in large numbers? These trees are rare and expensive, and a few isolated individuals are planted, which must take all the chances of death that accompany vegetable growth.

We know that apple-trees, elms, and pines often die most unaccountably; were these trees scarce, and could amateurs plant but one white pine at a cost of several dollars, how anxiously he would watch it. If, yielding to any of the diseases inherent to the pine, it should die after a severe winter or late spring, he would call it tender and unwillingly risk it again. Yet we know that in almost every plantation some young pines die every year. Pines, being common and cheap, are planted by the hundred, and we do not miss the dead trees.

Could we plant the rarer trees I have named, by the dozen, in groups and thickets, many would prove enduring which now seem unable to stand the winter or summer. Summer as often destroys the really tender evergreen as winter, only we do not know it, and do not notice the time when the disease is taken, but only note the day of death. I have frequently seen young pines, hemlocks, and arbor-vitæ die in the woods the winter following extensive chopping, when the large and old trees were removed—thus letting the strong winds have full sweep. This hint ought not to be lost. We ought to plant many of the supposed tender varieties in sheltered places, like woods or groups, where the wind and sun would have free entrance, but the direct force of each be broken by intervening branches.

Locality has quite as much to do with hardihood as *latitude*. Some trees affect sands, others loams, and others clay, and the inhabitant of either will be less able to resist danger when growing in an ungenial soil. This is a very important question to those who really want to give their homes or the general landscape all the beauty and variety which is possible. No tree is more grand than a full-grown pine, none more picturesque than a perfect hemlock. The double white spruce is quite equal to the Norway spruce, and the Norway seems nearly a perfect tree; but when we know that there are spruces which have silvery foliage which contrast most beautifully with the dark leaves of the pine, hemlock, and sister spruces; when there are pines whose long leaves are as soft and plummy as feathers; piceas of the most weird and fantastic forms, imparting to the landscape the most picturesque variety—should we be contented with our favorites the white pine and the hemlock, and never care to call in—to increase their beauty by contrast—the other beautiful trees I have named? I have confined myself so closely to the evergreens, in this article, that it would seem as if the deciduous trees were either all hardy, or of no consequence; but this is a mistake: there are even more opportunities among the deciduous trees than among the evergreens for experiments in adaptation.

No pains taken by individuals or associations in this direction can be wasted; only let the efforts be wisely and vigorously made, undiscouraged by any number of failures.

Juniperus Communis Depressa.

NOT long since we passed over the railroad from Milwaukee to Chicago, and while we admired the many fine villages and cities, country residences, and the country generally, we were particularly struck with the beauty and grace (if that is the word) of this native evergreen, as we saw it growing along the banks of the lake, through Lake county. Our attention was first called to it in the grounds of Robert Douglass, at Waukegan, where, under his skillful management, many single plants were covering a very large surface, giving it a simplicity of beauty seldom found. Not ostentatious and aspiring to over-

look its entire surroundings, but humble, modest—creeping, as it were, along beneath its proud associates, its spray rising in beauty but not loftiness, as if to peep about and watch, unobserved, its neighbors. This evergreen often grows to cover a diameter of fifteen to eighteen feet, the main branches lying, or resting, upon the ground in every direction, while its growth rises to a height of but little more than a foot—forming a dense evergreen often so much desired and sought for in city lots. Many specimens we saw that were as uniform and regular, in their native wildness, as though they had been cared for and pruned by the hand of man.

We wonder that this variety of Juniper has not been more generally planted. In large plantations, where variety is desired, or small yards, where the let-al-ne-care-for-yourself system too often prevails, it will give satisfaction. It would also answer well for covering mounds or planting in rock-work. Planted in the shade of larger trees, barren soils, or the rich prairie or garden soils, it thrives equally well.

We wish gardeners would take more pains to introduce it into their plantations.

MADISON, WIS.

O. S. WILLEY.

Horticulture and Hydrology.

BY WALTER ELDER, PHILADELPHIA.

PLUMBING should nearly always accompany gardening, especially in this country, as our summer droughts are often so severe as to wither vegetation and injure animal thrift. It is the excessive aridity of our summer atmosphere that causes such great drinking of ice-water, which often so chills the system and lays the foundation of incurable diseases among our people, and domestic animals also. Our crops too, are often light, and some fail. In the humid atmosphere of Great Britain, animal health is more general, and vegetation is more thrifty and productive. People like to choose high situations in the rural districts, as it is supposed that the air is more pure and bracing; while, at times, it is sickening with dryness. But nature has provided waters in the hollows, in running streams and ponds, which, by the ingenuity of plumbing, can be sent up to the heights in pipes underground, and emptied into subterranean tanks or cisterns, sufficient for all necessities. Where it will not suit to set a ram, a windmill may be erected, or an engine of one or two horse-power may be put up, to throw up the waters to the heights. And with force-pumps in the cisterns, and the use of hose, the water can be easily showered over the grounds and plants, and around the dwelling-house, to moisten the air for the benefit of the family's good health. By that, animation will be sprightly and vegetation thrifty. All rain-waters from the roofs of buildings may be run into the tanks, and the waste waters of the household can be run into other cisterns, to be applied to the fruit trees and vegetable gardens. They are very fertilizing. Thus, then, people can maintain their good health, prolong their lives, and double the value of their crops by artificial waterings.

We could name many lofty-situated estates so supplied with water, and where animal health is uniformly good, and all crops succeed, and yield large rewards for the outlay of a plentiful supply of water when they are needed.

The showering over the grounds and crops is nature's mode of watering. It prevents evaporation; and the foliage of plants rather imbibes than exhales moisture, and thrifty growths are kept up, and large and satisfactory are the products thereof.

The prophet Isaiah was highly skilled in general husbandry; and in warning the sinful people of Judah, he says to them, "Ye shall be as an oak whose leaf fadeth, and as a garden that hath no water. Ye shall be ashamed of the oaks which ye have desired, and ye shall be confounded for the gardens that ye have chosen." At that early period, when hydrology was less understood, and the practice of plumbing scarcely known, the benefits of artificial watering were as generally realized, and perhaps more universally practiced than in our times, although the light of science shines around us to lighten our path on the road to successful cultivation.

Many grievous disappointments, by failures, would be warded off if artificial waterings were rightly applied, and at the proper time. What signifies the preparing of the soil, if the crops get no water?



Advice to Small-Fruit Growers.

VERY pleasant it is to sit down and read such nice, handy little volumes as *Ten Acres Enough*, *Gardening for Profit*, *Our Farm of Four Acres*, and *My Ten Rod Farm*, and be entertained for a season; or to count up on paper the estimates of the profits of a cozy little small-fruit farm of five or ten acres, and imagine that it is the very easiest, nicest way of making money; but, alas! few know of the disappointments that are strung along the first few years' experience of the would-be amateur.

There is many a time when crops fail, when prices are low, when the weather is unpropitious, when sudden and unlooked-for expenses crowd them hard, when competition cuts away the profits, when dishonesty robs them of their proceeds.

The romance of a life on a small-fruit farm generally ends about the second or third year, and the cultivator is ready to admit that the *experience* is as severe as the *prospect* was encouraging.

Regretful as we are to say it, yet the above-named volumes, while aiming to throw a bright side on horticulture, and stimulate a love for fruits and gardening, have been in many cases the innocent instruments of deep injury. By reading one, it would seem a very simple thing to realize any where from \$200 to \$1000 per acre, and plenty of instances there may be where that sum was realized, beyond a doubt; yet the beginner rarely gets it. His first two or three crops never come up to estimates, and results generally are far behind expectations.

It may be easy to sit down with Mr. Henderson and count up, as he does, the profit per acre of cabbage, cauliflower, or celery; yet outside of the rich market-gardens of Bergen, such results are rarely or never attained.

Prices are constantly fluctuating, lands differ in richness, and the amateur lacks positive information and experience; and it is not strange that so many fail and are disposed to yield up every thing.

We doubt not that if diligent search was made, there can be found thousands of amateurs who have bought small farms, based on the representations of these volumes, and have experienced so much care, anxiety, and trouble, that they would be glad, if it were possible, to give up every thing for a free and fair breathing-spell in some other field of life's work.

The cultivation of fruits and flowers is one of the most beautiful and tasteful of all occupations; but how few know the time, care, *capital*, and skill necessary to make it profitable.

Very few know the value of their land until they get on it, and then find it too poor, and price too high. Many do not take into consideration the points of cost of transportation, or home economy of fruits, if gluts should occur. Now, the fact is, that small-fruit culture, or gardening, requires a large outlay for *labor* and incidentals.

One acre of small fruit costs, really, more to cultivate and keep in bearing than ten acres of average farm-land.

No land for small fruits is really worth paying over \$100 per acre for.

Our advice in all cases is, first, to have capital enough to buy and pay for the farm, enough over to stock it, and enough to support it for a year and a half; by which time, the grower will have found out that he has occasion for thanks that he did not run in debt for his land, trusting to future crops to pay for it.

With good soil, good cultivation, and *plenty of manure*, no grower need fear for satisfactory results sooner or later. He must not expect that his first year's crops will be his best, nor the second.

By the third season, he will have gained a little wisdom, be more contented, and begin to enjoy the benefits of his varied experience.

Fall Meeting of the American Pomological Society.

WE really hope that the next meeting of this Society will be fully attended by representatives from all parts of our country. Providence is blessing the land with abundant crops of unusually fine fruit, and the popular interest in horticultural matters seems to have been so greatly quickened in consequence of it, that we shall be disappointed if it does not prove the most successful and interesting ever held.

No practical or professional horticulturist who can afford a few days' absence from home will regret the treat he will be sure to find laid out for him.

This, the twelfth session of the Society, will be held in Horticultural Hall, Philadelphia, Pa., on the 15th day of September, 1869, commencing at eleven A.M., and continue for three days.

It is hoped that every society interested in horticultural matters will send representatives, and it is especially important that contributions of fruit should be freely bestowed, and help add to the value of the entire collection.

The Society is doing a good work, its officers seem more enterprising than ever, and the press generally add a very cordial assistance.

All persons desirous of becoming members can remit the admission fee to Thomas P. James, Esq., Treasurer, Philadelphia, who will furnish them with Transactions of the Society. Life membership, ten dollars; biennial, two dollars.

Packages of fruits, with the name of the contributor, may be addressed as follows: American Pomological Society, care of Thomas A. Andrews, Horticultural Hall, Philadelphia, Pa.

We note that the State of Kansas has generously voted \$500 to defray the expenses of the delegates from that State, and it will be money invested to her practical advantage. If our legislatures here in the East could stop long enough from their money-getting to think of the immense importance of the fruit interests of our country, they too would feel it was work greatly worth aiding.

Lilium Auratum.

THIS species of lily can not fail to become one of our most popular flowers. Notwithstanding all that has been said in its favor, (and the encomiums have been abundant enough,) the great mass of the people do not know of it, or, if they know, neglect it because too high-priced to be within their reach. Every word uttered in its praise we can repeat over and over again. Its magnificent size, great beauty, and, above all, its peerless fragrance, surpass all of the same species we have yet met. One of them is now in flower in our office, as we write these words, diffusing a penetrating, exquisite fragrance, not only throughout the entire room, but far out beyond, up and down many steps. We think that of all the novelties introduced or propagated by our florists, nothing will so please the popular mind and have such a wide sale as the *Lilium auratum*. When the price of first-class bulbs can be brought down to fifty cents—instead of \$1.50 and \$2—the sales must be counted by hundreds of thousands, instead of, as now, by thousands only.

Bulbous rooted flowers are far more easily grown than those from seeds, and the public taste will insensibly lean toward lilies, tulips, gladioli, etc., more and more, year after year.

An Explanation.

PERHAPS some of our readers may have been amused, perhaps mystified, by a pleasant jest in our June number in connection with the receipt at our office of a box of the Marshal Niel Rose, from Ellwanger & Barry. As the "Acknowledgment" thereof made in our June number has excited inquiry, the following is the explanation: Last spring, a letter was written to the above firm by the Editor, stating his expectation of using the Marshal Niel Rose as a premium, and the probability of purchase from them; but requesting, if convenient, a specimen of the plants quoted in their price-list, for examination as to quality. A single plant would have been perfectly sufficient; but a large box was sent with quite a number in it, and a bill for the same. We were a little amused at the transaction and the idea of charging for specimens, especially as it is a custom of the horticultural trade to favor editors with such specimens as a complimentary gift; being good-natured, as we always are, it pleased our fancy to give the affair a little "tap" under Editorial Acknowledgment. If it has offended the "dignity" of so worthy a firm, then they may rest assured of our continued respect and friendship.

A Shrewd Planter.

THERE is scarcely an agricultural journal in the entire United States but has lifted its voice and finger of warning at the wholesale destruction of our forests, and the consequent changes of our climate. As long as our forests remain, we have a temperate climate and abundance of moisture; for the forests are nature's great pumps to attract water from the cloud reservoirs. If these are taken away, rain-falls become either irregular or drop off altogether, and drought comes upon a wasteful and unsuspecting population.

But we have a novelty to record. A sugar-planter at the Hawaiian Islands adopted, in 1860, a new way to raise the wind and to make the clouds drop rain. Having a large quantity of

arid land and no streams of water within reach, he set his wits to work to bring the moisture from the mountain down on to his plantation. For this purpose he planted 50,000 forest trees, which, under his care, grew rapidly. Soon the clouds hung over the new forest and the rain came down abundantly. Cisterns were built which held about 30,000 barrels of water, and this resource insures the planter against destructive droughts. He has now a very flourishing sugar plantation. But he has made it out of a dry plain, which without water would have been of very little value. The *San Francisco Bulletin* comments wisely upon this singular "*triumph of mind over matter*." It is the most economical theory of irrigation which has yet been brought forward. There are no better hydraulic pipes than groups of forest trees.

The hint is a suggestive one, which may be turned to good account in this country. There is danger that our red-wood forests will be exterminated in a few years. There are long stretches of mountain slopes where the timber having once been cut off, a second growth of the same kind did not follow. The hot sun was let in, the ground dried up quickly, less moisture was condensed; and the area of forest growth has been narrowed from year to year. We may not be able to make sugar plantations of our arid plains. But we may make gardens of them, if only we can induce the trees to grow.

Best Selection of Strawberries.

The public will find in previous pages of this number of *THE HORTICULTURIST* a very full and candid statement as to the merits of nearly all the most prominent new strawberries lately introduced. Very few have the time, inclination, or opportunities to investigate a large collection closely, and travel sufficiently to satisfy themselves of the relative success or failure on different soils, and in different climates. The above report has been gathered from a mass of information of considerable editorial observation and travel, and will be found, probably, one of the most complete and accurate published this year.

But what shall we say of the old varieties of strawberries? What shall we recommend for family use, what shall we plant for market, what is the best selection combining the best of new as well the old kinds?

We say, frankly, that to every one just commencing a bed for family use, or a plantation for market, select the *Wilson* for your main reliance. Trust not to enthusiastic reports of other varieties, but be determined to experiment and satisfy yourself, and then change your old variety for any thing new that is of decided merit, and succeeds well on your grounds.

Branch off from the *Wilson*, and select perhaps twenty other varieties for experimental purposes, and, to give you an opportunity to suit your special taste, choose the following:

BEST TEN OLD KINDS.

Wilson.
Triomphe de Gand.
Jucunda.
Brooklyn Scarlet.
Green Prolific.
Lady-Finger.
Philadelphia.
Russell's Prolific.
Agriculturist.

BEST TEN NEW KINDS.

Napoleon III.
Barnes's Mammoth.
Charles Downing.
Boyden's No. 30.
Lady of the Lake.
Ripawam.
Romeyn Seedling.
Stinger's Seedling.
Nicanor.

To which add Lennig's White, which should be in every family collection. Better lists than the above can not be desired. The old varieties are so well known that none of them can well be spared, while, of the new kinds, the list can be readily thinned down to the five first in order, which, as far as our observation goes, are the best of the new kinds now fully tried.

The most productive strawberry on record is the Green Prolific. Beds well cultivated will yield twice to three times more than the *Wilson*, but it is too soft for market. The biggest berries are the Boyden's No. 30—a very desirable variety for amateur culture. The finest flavored is the Napoleon III. and likewise finest color. The firmest berry is the Barnes's Mammoth. But the berry that combines the greatest number of good qualities for family culture everywhere, and will succeed with as much certainty as the *Wilson*, is the Charles Downing.

For market purposes, the *Wilson*, *Triomphe de Gand*, *Jucunda*, and Barnes's Mammoth still lead the rest; and of these the Barnes's Mammoth probably possesses better characteristics, for general cultivation, than any of the rest, while the *Triomphe* and *Jucunda* will command the highest prices.

Is it not singular, that, while we have been experimenting for fifty years to get a better berry than the *Wilson*, we have succeeded in only finding three successful competitors, and, of these, only one—the Barnes's Mammoth—that seems to approach it in productiveness and be an improvement in flavor? And, then, is it not strange to think, that, out of five hundred or more "*promising seedlings*," originated within the past fifty years, only five new varieties are now found worthy of general unqualified commendation?

New Strawberries.

THE season of 1869 has been as prolific as usual with the appearance of new varieties of strawberries; and although we can not judge as to their merits, yet we give as full a description as we can obtain.

Michigan Seedling, introduced, in 1868, by B. Hathaway, of Little Prairie Ronde, Mich., after experiments reaching over fifteen years. "A week to ten days later than the Wilson, said to keep better, more even size, and finer fruit. Represented to be unequalled for hardness, vigor, productiveness, and long-keeping qualities; average product of well-established beds, four quarts to three hills."

Kentucky Seedling, originated by J. S. Downer, of Kentucky, and introduced near Philadelphia by William Parry, Cinnaminson, N. J. "The plants are strong and vigorous, with long, stout fruit-stalks, bearing the berries well up from the ground; blossoms, perfect; fruit, very large, bright scarlet red; beautiful and firm, bears carriage well, excellent quality, and very productive. Upon cutting with a knife, it will be found unusually white, and firm in flesh—very desirable points for preserving or canning."

Owen's Onarga Seedling, raised by J. W. Owen, Onarga, Ill. At all the exhibitions there, for three years, has taken best premiums for a table berry. "Is a strong grower, leaves broader than one's hand, and fruit-stalks stand up from six to eight inches. Berry, roundish conical; color, a bright scarlet; flesh, solid and white, with a rich wild flavor, highly perfumed. Seventeen fruit-stalks have been counted on a single plant, and each stalk twenty-two to forty-five berries."

The Ferris Seedling, raised by Ferris & Caywood, Poughkeepsie, N. Y.

The Caywood Seedling, raised by same firm.

We had an opportunity of tasting the above at the spring exhibition of The Fruit Growers' Club, New-York. The former is much the best of the two, being of a very large size, deep red color, and a very fine aromatic flavor. The Caywood is fully as large and of brighter color, but flavor very poor; will hardly rank first-class.

Several other seedlings of good merit were exhibited at the Fruit Growers' Club, New-York; one, No. 5, by E. H. Bogart, Roslyn, L. I., is of immense size, beautiful color, and tremendously productive.

Also one by O. J. Tillson, Highland, Ulster Co., N. Y., of largest size, exceeding Boyden's No. 30, and fine scarlet color, but more acid than the Wilson.

The finest seedling on exhibition was by G. W. Nichols, of Summit, N. J., whose plate of berries attracted general praise. We have visited the bed where the plants are grown, and if the next season develops its qualities as well as we expect, it can be counted a very desirable acquisition. Berries, large size, same color as the Wilson, very heavy, solid to the centre; hardy; productive as either the Wilson or Russell's Prolific; flesh as firm as the Wilson, and flavor excellent. It will probably take rank as a good market variety, but will be tested thoroughly before introduction to the public.

The Triumph of America, a variety we discovered in the grounds of Henry A. Dreer, Philadelphia, Pa. Berries of largest size, exceedingly productive, and good quality. In comparison with the *Triomphe de Gand*, it was more vigorous, more productive, adapted to light soils, larger size, and flavor quite distinct, more sweet. We are not fully satisfied yet as to its being a distinct variety, nor have learned its history. It will probably be more fully decided another season.

We trust that none of these new varieties will be introduced, unless there are perfectly satisfactory recommendations of superiority to kinds already well known and popular. If a single old kind has merits equal to any of the new ones, if not better, then it is folly to spend money uselessly in the purchase of new ones, and still more unwise for propagators to force them on an inexperienced public. It is the duty of horticultural journals to expose their merits or demerits in strict accordance with facts, and nothing else.

Fruit Catalogues.

THERE is a large class of persons whose only ideas of fruit-culture are gained from the various catalogues of the nurserymen, and who either grudge the money or the time to read useful books of more specific and useful character.

Our nurserymen have understood this spirit well, as may be seen by the issue of a score or more of catalogues, which are really compendiums of best methods of treatment of trees, from the date of selection to date of bearing. In some respects, fruit-catalogues are superior to standard books; because, as a rule, they are more practical, easier read, and give a better idea of best market varieties.

Fruit culture for pleasure and culture for profit, are now two distinct branches. In the one, an unlimited number of varieties for amateur experiments, or tests, are readily permissible. But in the latter, the choice of varieties has been, by the decree of the popular preferences, reduced to a few very simple names, and any thing beyond that list is a risk or a loss.

Fruit catalogues being annual, or semi-annual, are progressive—constantly recording all

new varieties of proved merit—while fruit-books are hardly ever revised oftener than once in five or ten years.

Most of our enterprising nurseries issue catalogues of the right description, and a beginner in fruit-culture would feel lost, if, once in the year, he did not send for one or more of them, if for no other purpose than as a handy reference book, or table guide.

We may mention particularly those of Ellwanger & Barry, Graves, Selover, Willard & Co., T. C. Maxwell & Co., F. K. Phenix, W. S. Little, Lukens Pierce, John Knox, William Parry, and Purdy & Johnston.

No one can peruse these without obtaining reliable information and practical ideas, continually, and they form alone a horticultural library of no small merit.

There are other lists published here and there throughout the country, which are of special local value, and edited by painstaking men; but their number is too great for even a bare enumeration.

Depredations to Pleasure Grounds.

IN some localities it is almost impossible to keep an ornamental bed of flowers, or a row of choice shrubs, or a walk of fruit-trees, entirely exempt from despoliation. The night-time finds prowlers about, who seek either to please a hungry palate, or, for pure maliciousness and revenge, cut and slash away with hatchet or hoe at any choice plant. How can all this be prevented?

It is admitted that the evil is on the increase, instead of the decrease. It does not pay to hire a watchman. Dogs are good things; but an adroit thief can easily put a dog out of the way. Guns are effectual, but are dangerous, troublesome weapons. Even a man's friends sometimes prove worse than a thief. Here is a gentleman, an amateur florist or fruit-grower, constantly experimenting with different species of flowers or fruit, endeavoring to produce successful seedlings or hybrids. His grounds are of course a favorite resort for friends and acquaintances; but, despite his care, some day, a careless observer will pluck his choicest flowers, or the first ripe fruit of his most darling tree or vine, and another year's vexations delay must be endured. Children, too often under the eye of careless, ignorant mothers or nurses, pluck or trample a precious bed of annual flowers, seriously marring its beauty.

It would seem, to the disappointed amateur, an occasion for making a virtue of necessity, and resolutely shutting himself and grounds entirely out from the sight or entrance of the public. A proceeding so entirely selfish and unpardonable none will indorse.

A gentleman in England, with a touch of grotesque shrewdness about him, and a pretty good appreciation of human nature, had a very choice specimen of rock-work in front of his house planted with ferns, and knowing that it would always be an object of curiosity and induce considerable "*touching*" and "*handling*," put up this funny sign: "*Beware! Scolopendriums and Polypodiums are set here.*"

The idea was successful, for all imagined that either the plants were poisonous, or else there was something concealed, which it would not be advisable to examine into too curiously.

It is a matter worthy of general notice that in some of our Western States, where the fruit interests are becoming so large, stringent laws have been passed to protect against such depredations, and since the laws have been widely published and commented on, the effect has been of a most salutary character.

Dandelions.

HENRY WARD BEECHER is a happy man; there is scarcely an object in nature, however humble or simple, but his heart and pen gush out in warm appreciation and praise of it. Hear him tell about Dandelions, a little insignificant flower or weed to all but children, and yet he is delighted at the sight of one, the first harbinger of spring:

"The first out-door flower of this year I saw at Peter Henderson's, in Bergen, N. J. It was a dandelion. All the fields were yet brown. The buds were unswollen on tree or shrub. The frost was scarcely out of the ground, and on the shaded side of the fence it was yet unthawed. But there was one dandelion that had got out its leaves and shot up its stem, and had opened its golden-pleated face as brightly as if there had been no winter, and as if it had never heard of frost! It was at the east end of a long greenhouse. Some seed, last summer, wafted by the wind, had struck against the building, fallen to the earth, and, washed by the rain close to the sill, had sprouted and found its root; and now, sheltered from the north, with direct and reflected rays of the sun upon it, it had come forth first of all the volunteers in the new spring!

"Not one of all the fine things contained in the whole acre of glass houses of Mr. Henderson, gave me so much pleasure. Why should not the flowers within blossom early and finely? They had no winter to battle. An artificial shelter and a stove-heat created for them a summer in winter. They could look through the glass and see the icy storms that never chilled them. But this solitary dandelion had no nursing, no protection. All winter long it froze or thawed as the capricious weather chose. And yet, no sooner did the March sun begin to shine a little warmth upon it than it sprang up, wide awake, radiant with new life, and hailed the

sun! No pampered bantling was this. It owed nothing to care and kindness. It pushed its way into bloom by its own inherent hardihood. Of course I thought of the human dandelions that I had seen. While hundreds of favored children, schooled and petted, give but a tender and late blossom, now and then some dandelion child shoots up between the cracks and crevices of the stones, and leads all the rest.

"But this was not all that my brave little dandelion made me think of. It brought to mind the summers gone, the meadows fairly ablaze with their brilliance, the golden cups that on their slender stems tried to outlook the dandelions in their own color; the bobolink, that piebald buffoon of birds, that in motley coat sung in the meadows his mocking descant, made up of a wail and a fizzle, all the while teetering on the stem of a golden cup, which was not stiff enough to hold him! Yes; I saw the meadow full of flowers while I looked in your honest face, first dandelion of the spring! I saw the whole summer! I heard its birds, I felt its winds. And yet not a word did you speak!"

New Potatoes.

THE present spring season has brought three or four more potatoes to notice.

The Early Queen.—Planted April 10th, dug June 22d, and exhibited by V. H. Hallock, Queens P. O., Long Island, N. Y. Specimens good, pink color, but only medium size. We did not taste the quality.

The Early Mohawk.—Exhibited by S. B. Conover, New-York. Planted early in May, and dug June 21st, at Red Bank, N. J. It claims to be the earliest potato grown; fully one week earlier than Early Rose.

Dimick Potato.—Raised by E. C. Adair, Salem, Oregon, and noticed by *Willamette Farmer* as follows:

"On the 19th of May last, we had Dimick potatoes measuring nine inches in circumference, firm and solid, and no hollow in the centre, as most other potatoes that grow so rapidly. On the 12th of this month (June) we have them, good and ripe, dry and mealy. I have been growing the Dimick potato for three years, and find it hardy, and when planted on good ground, mulched ten or twelve inches deep, they are as prolific as the most of the other varieties, and keep better until late in the spring than any other variety that I am acquainted with. Farmers may plant in April, and have them ripe, dry, and stowed away, by the last of August or first of September, and be assured that they will keep well until late the next spring."

Early Sebec Potato.—A correspondent of the *Maine Farmer*, who has been seeking to learn the origin of this potato, says: "Recently I learned that a fellow dealing in 'truck' in Boston, who claimed to have lived once in Sebec—the town is probably none the better for it—to 'raise the wind,' put this new name to a good old potato. The name is applied to a variety that was brought to this place (Sebec) by Mr. William Mitchell, of Dover, about forty-five years ago. Mr. M., then an old man, worked a long time in the Province of New-Brunswick, receiving his pay, as was the custom of the times, in silver coin, which he brought in his pack through the forest by way of Houlton. He found a potato in the Province so satisfactory to his taste that he brought seed in that toilsome journey, from which this part of the State has since rejoiced."

The Duchess.—The editor of *The Burlington (N. J.) Enterprise* is in ecstasies over a new potato, apparently better than the Early Rose.

"This potato is undoubtedly earlier, quite as productive, and equally as palatable as the Early Rose or any variety that has as yet been introduced to our knowledge. A specimen of this new variety was deposited on our table June 17th, four of which weighed half a pound, and measured in circumference, respectively, 6, 5½, 5¼, 5½ inches, while those of another early and much lauded variety, Early Rose, which were exhibited at the same time, and which we were assured had received the same care and enjoyed the same opportunities for arriving at the like degree of perfection, fell far short of the Duchess, being but little more than half the weight, and falling from 1¼ to 2½ inches short in the measurement."

The Columbia Plum.

At a late meeting of the Alton Horticultural Society, Dr. Hull exhibited specimens of the *Columbia Plum*, stung by the curculio, but the larvæ were all drowned out. This seems to prove conclusively that it is the only Plum able to successfully withstand the attacks of the "little Turk."

The Columbia is one of the largest and handsomest varieties of the plum now grown. Skin of a brownish purple, with blue bloom; flesh of an orange color, moderately juicy, and rich quality, sugary, excellent; one half of the fruit is larger than the other; fruit separates freely from the stone, and ripens about middle to the last of August. Its objections, if any, are, that the fruit is of a somewhat coarse texture, and has a tendency to rot, which will impair its value in some degree, but not seriously.

Down with the Ailanthus.

How this pestiferous tree could ever have obtained the beautiful significance of "*Tree of Heaven*" is beyond our comprehension, but no gift of nature was ever more absurdly named.

In its youth, its pendulous branches, with their long and narrow leaves, seem in their luxuriousness to give a tropical appearance like that of a palm, but when full grown a homelier tree never was seen, and its scraggly limbs are a perfect exemplification of ugliness.

The rage, in former years, for the planting of this tree in the streets and squares of our cities, has, in our opinion, proved one of the greatest of mistakes. If once established, it is impossible to outroot it, while, in a sanitary point of view, none ever speaks of it but with the greatest of abhorrence.

The effluvium from its blossoms is noxious and unwholesome to an extreme degree. We have known many ladies or sickly persons, when the trees were in blossom, obliged to leave their neighborhood, for some other locality, to recover from the evil effects and sickness induced.

The tree hardly possesses a redeeming quality. The glutinous litter made by its blossoms when fallen and decaying is disgusting; the shade afforded is comparatively small, and the tree, altogether, is a public nuisance.

We observe that various inland cities and towns have recently directed their attention to the abatement of this nuisance. In one city the board of health has authorized the city marshal to cut down and remove these "*pestiferous*" trees, upon complaint of any citizen before whose door they may stand, while others have adopted even more summary methods of clearing them away from sight, smell, or sound.

It would be well for others to follow the same example, and in their places substitute the beautiful *maple* or graceful *elm*, or the appropriate *horse-chestnut*, all of which are trees of the best character, long lived, and grow in beauty year after year.

Floricultural Notes.

Tree Mignonette.

A CORRESPONDENT of the *London Journal of Horticulture* gives a plan for growing this beautiful and fragrant plant into a tree for the conservatory, which, if always practicable, possesses some interest to the lovers of flowers. We hope some of our lady readers will make an experiment of the plan, and report.

"Sow a pinch of seed in the centre of as many three-inch pots as there are plants required. When the young plants are strong enough, thin them by degrees to one plant in a pot, and that must be the strongest. Train that up a stake to the height required, pinch out all side shoots and the heads of bloom, but do not divest the stem of its leaves until the plant has attained its full height. To form a head, leave about three shoots at the top, and pinch them in from time to time.

"I have had tree Mignonette four and five feet high, with heads two feet through, by sowing the seed as above described, in August, and growing the plants for twelve months, shifting into larger pots when required. These were handsome objects in the conservatory, and afforded many cut flowers all winter. For ordinary sized trees, the seed should be sown during the first week in May, to bloom throughout the following winter. Different catalogues announce a giant variety for this purpose; but in growing the two I have found no difference."

Pinks.

J. D. CONTRIBUTES to *Gardener's Chronicle* best methods of propagating Pinks: Take off the young shoots of this season's growth, and cut them off at the third or fourth joint with a sharp knife, at the same time remove the lower leaves and shorten those at the apex of the shoots. The pipings will then be ready for putting in the ground, which should be prepared for them by sifting some fine soil on it. This should be covered with a layer of sand, and afterward be well watered, allowing it to become somewhat solid before putting in the cuttings. These points being attended to, the cuttings may then be thrust gently into the ground up to the leaves, and about an inch apart. A gentle watering should then be given to settle the earth around them. When dry, cover the cuttings with a glass or paper cover, and shade them from the mid-day sun; they will then require nothing more till struck, which will be in about five weeks, when the cover should be lifted for a few days prior to their being planted out.

Bouquets for the Hand.

A LADY correspondent of an English magazine gives a few practical hints as to the best arrangement of colors for a bouquet:

"Bouquets for the hand should be made of the choicest flowers, gracefully arranged; heavy solid flowers or massive arrangements should be as much as possible avoided. Such bouquets are necessarily brought under the closest inspection of the eye, and should be composed of flowers of delicate structure, or great variety, or exquisite fragrance. The present style of immense size, composed of solid flowers, scarcely, if at all, relieved by foliage, is only suggestive of some enormous variegated or pied fungus, hung with silk fringe or put up in lace paper, and when carried at evening entertainments becomes as often a burden as a pleasure to the fair possessor.

"For successful effect in floral decoration, much depends upon the judicious arrangement of colors; violent contrasts are to be avoided, as also the sameness produced by having too much of one color.

"In producing harmonious contrasts of colors, it should be remembered that there are only three primary colors, red, blue, and yellow. From these other colors arise—orange being composed of yellow and red; purple, of blue and red; green, of yellow and blue.

"These form contrasting colors to the primary three, with which they are in harmonious opposition, as the orange with the blue, purple with yellow, and green with red.

"Olive is formed of a combination of purple and green; citron, from green and orange; and russet, from orange and purple. Red and blue and yellow harmonize with each other, and they may be placed in juxtaposition; but purple should not be near red or blue, as it is composed of those two colors; for the same reason, orange should not be placed next to yellow or red. Another rule is, that the neutral hues, brown, maroon, slate, lavender, etc., should be used in the greatest quantities, and the primary colors used in smaller quantity, for heightening the effect. If you lack the proper shades for producing the necessary harmonies, and find that two colors do not harmonize well, separate them by a white flower.

"Again. Always place the brightest colors in the centre of your design, and gradually decrease the intensity of the tints as you approach the exterior; and avoid spottness or patchiness by using, as much as possible, one prevailing color."

Cyclamens.

THE *Gardener's Magazine* records a beautiful display of Cyclamens, at the conservatory of W. Wiggins, Isleworth, England:

"A more beautiful sight than the large span-roof house in which the collection of plants are grown, can not well be imagined. The whole are a perfect sheet of bloom, ranging in color from the purest white to the deepest carmine, each flower being remarkable for that immense size and fine quality which are the distinguishing characteristics of this strain.

"The whole of the plants are marvels of cultural skill. We could have picked out scores of the two-year-old plants that are dense masses of foliage, eighteen inches across, and so well furnished with flower-buds, that, when fully expanded, there will not be less than three hundred flowers in bloom, at one time.

"There is very little doubt that it is one of the prettiest winter and spring flowering plants we have. Apart from its usefulness and beauty as a plant for the conservatory or drawing-room, it is particularly valuable for furnishing cut flowers, as the latter have the desirable qualification of remaining fresh a great length of time after their severance from the plant."

Good Roses.

F. R. ELLIOTT contributes to *Moore's Rural New-Yorker* a good selection of best new and old kinds:

"Of *Hybrid Perpetuals*.—Mademoiselle Jennie Marix is a new one of bright rose color, large and of fine form. Beauty of Waltham is a bright rosy crimson, very large, and a free bloomer. Charles Rouillard is of a bright rose color, large and full, and a free bloomer. François Arago is of a rich, velvety maroon. General Washington is a brilliant rosy carmine, almost scarlet, also a free bloomer. George Prince is of a dazzling red, tinged with rose. Mademoiselle Bertha Seveque is a pure white with a shade or tint of rose color late in autumn. Maurice Bernardine is a brilliant vermillion, blooming in clusters. President Lincoln is a dark red, with a crimson shade. Panache d'Orleans is a white and rose color striped.

"Of *Bourbons*.—Appoline is a light pink. Blanche Lafitte is flesh color; Decandole is purplish red; Hermosa rosy blush; Souvenir de Malmaison, clear, flesh color; Louis Margottin, a satiny rose color.

"In *Teas and China or Bengal Roses*, one can hardly go amiss, for all are good, and each one you buy and flower will beget a desire for another."

New Roses: best selection as to characteristics.

A CORRESPONDENT of the *Gardener's Magazine*, analyzing the Rose, in its characteristics of form, color, habit, and scent, gleans from the entire list of Roses, the few best varieties that seem most perfect.

"There are four forms of the Rose, all meritorious. 1. *The Globe*. 2. *The Cup*. 3. *The Compact Form*. 4. *The Expanded Form*.

"It is also generally stated that the order of merit of the various properties of the Rose is as follows: 1. *Form*. 2. *Color*. 3. *Habit*. 4. *Scent*.

"I take hybrid perpetual roses, because I think we commonly agree that that race is the noblest, and I will write down the four which seem to me to be the most lovely.

"My task is easy, for *Charles Lefebvre* and *Alfred Colomb* are admittedly the two best, and *Duchesse de Morny* and *Marguerite de St. Arnaud* are almost universally considered to stand next. I find that they have certain qualities in common, and certain distinctive peculiarities. As to form, that of the *Duchesse* is the loveliest, being a cup well filled with petals, while the exterior petals are reflexed boldly and gracefully. The next best form is *Alfred Colomb*, similar to the last, but globular instead of cup-shaped. Thirdly, *Marguerite*, which is a shallow, well-designed cup, surrounded with fine expanded and slightly reflexed petals. Fourthly, *Charles Lefebvre*, which has the form of a ranunculus, expanded and the least attractive.

"As to color, I rank *Duchesse* first, *Alfred Colomb* next, thirdly *Charles Lefebvre*, fourthly *Marguerite*. As to habit, I prefer *Alfred Colomb*; it is more truly perpetual, vigorous, and graceful in growth than the rest. Next in order are *Marguerite*, *Charles Lefebvre*, and lastly the *Duchesse*. As to scent, they are all sweet-scented.

"Hence I deduce the fact, 1st, that color and form are primary essentials, and color before form; 2d, that habit must be fairly vigorous, graceful, and *remontant*; 3d, that delicate scent is an unavoidable necessity.

"I consider the cup-form of the *Duchesse* the most perfect model, and the habit of the *Alfred Colomb* the best. I place these two first, *Charles Lefebvre* third, and *Marguerite* fourth."

Bedding Pansies.

A CORRESPONDENT of the *Gardener's Magazine*, after trying all the different varieties of bedding pansies for summer or autumn display, now only retains the yellow variety of the cliveden series, substituting for the others *Imperial Blue* and *Maggie*.

"What we want in bedding pansies are an erect habit, a lasting color, and a profuse and continuous bloom. The *Imperial Blue* has all these good qualities, and is the finest bedding pansy that I have seen.

"Those who have never seen pansies massed, have no idea of their great beauty. They are thorough wet-weather plants—that is, they are not destroyed by wind or rain, as most bedding plants are; and not only that, but they are so easily grown. We planted last season about seven thousand different violets. One border, about four hundred yards long and twenty-four feet wide, planted with pansies and cerastiums, and having a single row of pyramidal-shaped good geraniums in pots at intervals of ten feet, was the admiration of every one who saw it. Pansies, however, are not suitable to all places, but if successful in any climate, no other decorative plant will repay the grower so well."

A Floral Gift.

THE EDITORIAL OFFICE of THE HORTICULTURIST was graced, one day last June, with the sudden appearance of a beautiful basket of cut flowers, a floral gift from some kind friend.

The beauty of the flowers, the taste exhibited in their arrangement, and the perfume which arose so pure and sweet and delicate, and filled the room for many hours, captivated every comer and elicited expressions of perfect delight, so that, for a time, it seemed like a little beauty spot, a miniature edition of a lovely paradise. Our acknowledgments are due to the generous givers, Messrs. Olm Brothers, of Springfield, Mass., and may each succeeding year find their flowers more and more beautiful, their good offices still kindly remembered, and their appreciation of the "*good old HORTICULTURIST*" as strong as ever.

A Wonderful Primula.

MR. B. S. WILLIAMS, of Victoria Nursery, Holloway, England, has probably the finest strain of single Chinese *Primula* ever raised. The editor of the *Gardener's Magazine* has seen a batch of about fifty plants; they are all alike through in leaf and flower, as if grown from cuttings, though they are all seedlings. In leafage, they are bold and handsome, the leaves being thick in texture and downy. As for the flowers, they can not be less than two inches and a half across, and more likely to measure three inches. The color is an extremely deep rich tone of sanguineous crimson, and they might be likened to the flowers of that well-known brilliant little China Rose, "*Cramoisie Supérieure*."

Hints for the Month.

Orchard and Nursery.

THE orchard begins to make us returns, this month, in ripened fruit of apples, peaches, pears, etc., which are to be gathered for either home use, or to be marketed. Upon the stage of ripeness, the care used in gathering, the fairness in packing, the time and condition in which the fruit reaches market, in a great measure depends the price it will bring, and the good or poor reputation the producer establishes in market. If the fruit is well assorted and only the best sent to market, fairly packed in suitable sized neat boxes and crates, plainly marked with both the shipper's and consignee's names, it will be likely to reach its destination and bring a much better return than that unfairly packed, or in inferior packages, etc., and all concerned—producer, dealer, and consumer—will be best satisfied. When fruit is to be marketed yearly, a reputation for fairness is worth a considerable sum to the producer, and it is only gained by sending good fruit in good strong neat packages, without resorting to any deception, either in word or act.

The scarcity of fruit, in many quarters, will cause a demand which will be met with remunerating prices; and all fruit that is suitable for preserving, not marketed, should be preserved. The means of preserving in bottles, cans, etc., are much simplified, and the ease with which they are put up with a surety of keeping, and little expense attending, should induce to the general preservation of fruit, so that fresh fruit may be had the year round by all.

During this month, a large share of the budding of young stock in the nursery will be done. While this is a very simple operation to the professional, it is little understood by the many who would like to avail themselves of the advantages a knowledge of the theory and practice would confer. The art is soon learned by observing the practice of an expert, and a little practice. Budding is more generally practiced than grafting, on many kinds of fruit, as it is a surer mode, and much less troublesome, being performed on young stock. The stock may be one or two years old, from seeds, cuttings, or layers. Buds to be inserted are taken from trees of the desired kind, formed on shoots of the present season's growth; these buds will be found in the axils of the leaves where they join the stem. All immature and undeveloped buds are rejected, and only plump, well-developed, healthy ones used. Cut the leaves off, leaving the stem, or petiole, for convenience in handling in setting; cut from about three quarters of an inch below the bud, upward, to about half an inch above, leaving it a little the thickest against the bud, and the bud entire. Cut a horizontal, clean cut through the bark or across the stock. Now cut a perpen-

dicular slit from the length of your bud-piece, from the centre of the horizontal and below; raise the blade of the knife to the top of the slit, and with a careful lifting sidewise push, start the bark on each side, loosen it the length of the slit and insert the prepared bud, cutting the bark at the upper end square off. See that it fits smoothly and square; wind the stock above and below the bud, parting the bass or other tying material for the bud and petiole, binding so as to close the bark, to exclude the rain and keep from curling. If, in ten or twelve days after, the buds appear plump, it is pretty good evidence that the work is well done and the buds have "taken."

A continued warfare must be kept up on all inimical insects. The borer (larva of *Laperda bivittata*, Lay.) hatched from the eggs of this beetle, laid the last month, will have commenced to burrow into the bark and wood of the tree, which may be known by the cylindrical passage through the bark and the castings which it throws out; follow him with a sharp wire, this is the most sure mode of destroying them with the least injury to the tree. If all who own trees which they infest would but adopt this remedy, and follow it up closely for a few years, we might soon rid ourselves of this troublesome enemy. The eggs are deposited and the larvæ enter the tree close to the ground, and not where round holes are seen some distance above the surface, and should be sought for and destroyed from this point, not, as is erroneously supposed by many, from the upper hole or orifice, as this last is where the perfect beetle issued from, in June.

Young seedling stock will need have the soil stirred around and kept free of weeds, and also be shaded, to guard against the ill effects of a hot sun and drought. A good thorough watering at eve will be beneficial; if a drought occur or prevail, water so as to have the soil become saturated and wet to a good depth, or little good is done.

Some varieties of fruits and shrubs will be maturing seeds now, and should be saved as they ripen, be divested of their outer covering or envelope, and planted at once, or preserved in sand, or other approved way, and sown in the spring. All seeds preserved for future planting demand certain conditions in keeping, in order to their preserving their vitality; those requirements should be as nearly natural as possible, and be learned and complied with.

This year's growth of shrubs and stools should now be layered, where multiplication is desired. The ground in which they are layered should be well manured, spaded, and made fine, in order to induce roots to start promptly and get a foothold; peg down the branches deep enough below the surface to prevent drying out.

Fruit-Garden.

He who would have fruit must take interest enough in it to cultivate it. Many seem to

think—judging from circumstances—that if they set out a few varieties of small fruits, a few standard fruit trees, with a dwarf or two, and give them about the same culture that was formerly given to potatoes, it is all that is necessary, and, if they do not get a large crop of the nicest fruit, that “fruit culture is a humbug,” or that there is no profit in raising fruit. Now, neglect or imperfect culture, in any case, never pays, and especially in fruit culture. If we would grow good crops of nice fruit, it must have the sole occupancy of the land, and have the best of care, and, when grown, be carefully gathered, and as judiciously marketed, or preserved for home use, etc.

Blackberries are multiplying in varieties from year to year, some adapted to particular localities and soil, others to a different; but there is none to entirely supersede the New-Rochelle; wherever that will succeed and endure the winter, nothing better, as to fruit, need be desired, as when well ripened none of the species can be more melting and sweet. When ripened, the best for eating, they will scarcely bear carrying, but for immediate use they are hard to excel. As they color a long time before they are ripe, they should hang till they begin to mellow. But, as before intimated, no one variety is adapted for succeeding alike in all places and soils, so some varieties of blackberries are adapted to one locality while others succeed better in a different soil. The Sable Queen, Wilson, Missouri Mammoth, and some others, are good to select from where variety is desired, or, in large collections, the four kinds named will give a good variety. Where the vines are loaded with fruit, it should be thinned, and the vines supported, to keep the fruit away from the ground.

Cultivators differ as to the time of pruning currant-bushes, some pruning as soon as the fruit is off, while others prefer to leave it till later fall, or even till spring. Our own practice and opinion is, that the proper time is to remove undesirable or superfluous shoots when they make their appearance; and when the leaves have fallen do any general pruning necessary.

Grape-vines which have been properly trained will need have but little done to them, except to pinch off the laterals and the new growth from the fruiting canes, as often as needed. Weeds should be kept down, and the soil be kept well stirred and loose about young vines. Insects will still be troublesome on the vines and the fruit, and hand-picking and destroying must be the main reliance; syringing with strong soap-suds, or a solution of carbolic soap in water, will destroy many kinds of insects; and mildew is staid, if taken in its first stage by sulphuring. Imperfect and decaying berries should be removed by the aid of scissors. Young vines not yet come to bearing need judicious care, training, and en-

couraging, to mature the greatest possible growth of good wood. Caterpillars will be apt to seriously damage and impede new growth unless closely watched and destroyed. Some early fruit will be maturing the latter part of the month; see to it that the birds do not get more than their share, and let it ripen thoroughly on the vines, as it is richer ripened on them than after being picked.

Cut off the runners to the strawberries, and keep them in rows, free of weeds, and give a good dressing of wood-ashes and bone-dust, well worked in around the plants, if you would have a good crop from them next year. A bed with the vines in rows, kept well fertilized, the runners cut and cultivated, will last and do well for four or five years, and do as well the last as any year, but good care is necessary in order to effect this, which some prefer to give rather than be at the trouble of frequent renewals, making new beds, etc. August is the best time for fall planting strawberries, although we think that in all northern localities, May is the best month of the year in which to plant for field culture.

Lawn and Flower Garden.

The usual heat and drought of August make it a trying time for cultivation or vegetation. For this reason, it is not well to keep the lawn quite as closely shorn of its grass as in the months preceding; yet if the grass is left spread, as cut, over the surface, less trouble from drying out will be experienced from four or five cuttings than if cut a less number of times and the grass removed. It is not the frequency of cutting that causes the injury to grass lawns in a dry time; but the closeness with which it is kept cut; for the more the roots are exposed, the greater the effects of the sun's rays on them.

Trees and plants newly set this spring will need be seen to that they do not cease to grow from the effects of drought; if a check is apparent in their growth, from drought, it would be advisable to remove a portion of soil a foot or more on all sides around each tree, and give a good soaking with water, return the soil and give a good heavy mulch; this will save from the effects of any ordinary drought.

The present is a good time for laying out and planning new grounds, or any improvements on present plans may be projected and put in execution, lists of plants, etc., made, in order to be ready for autumn planting; early orders and selections, from nurserymen and dealers, have the advantage of selecting from a full stock.

Box-edging, to look neat and as it ought, should be kept full without any vacant plants, or dried branches, and be sheared into desirable shape. It may now receive its final clipping for the season.

Many shrubs, etc., propagated by budding,

may be worked now, if directions given under "Orchard and Nursery" hints be observed. One point there omitted, was, to say the buds should not be cut from the "stick" till the stock is prepared to receive it, as a few moments' exposure to the air often oxidizes the cut bud so as to defeat the object, or prevent the bud uniting with the stock. If the bud is first prepared, it can be kept fresh by placing it between the lips while preparing the stock, which, perhaps, would be as well as the former way.

In budding, it should always be borne in mind that the bud and stock must be of the same family, and generally of the same species, if real and permanent success is to be expected.

Shrubs properly kept in shape by pruning, etc., add greatly to the ornamenting of a place, and may be used almost unlimitedly if judicious taste is exercised in planting, etc. If a larger amount of shrubs were planted, with fewer trees, the gain in effect would not be inconsiderable; but, as now, we often see around most country places trees, with few, if any, shrubbery; whereas if a portion of the trees were substituted by a proper selection of shrubs the place would appear much more ornamental.

Our flower-beds and garden, to give us a full midsummer splendor, require of us a constant, careful attendance—the bedding plants, close training; for now they are at their highest point of beauty, and if attended to will continue to grow and bloom till frosts come.

Our annuals, too, are in their prime, and require attention to keep their season prolonged to the longest. Unless a few plants are desired for growing seed, it is better to remove all blossoms as they begin to fade, and the plants, as soon as they cease blooming, and substitute in their places others from the reserve bed.

Seeds of perennials sown now, as they ripen, will, most of them, blossom next year, thus saving a year's growth over those not planted till spring. The hardy perennials sown now will make a good growth, and be enabled to withstand the winter, and generally flower next season.

It is time to strike cuttings of plants for indoor winter culture, and pot those already rooted. Some seedlings in pots, or in the open air, will need repotting, or be potted as they advance, or come to suitable size. As they are potted they should be set in the shade of the arbor, a north wall, or under a shed, to be kept cool and well watered. All plants that are to go indoors should be sorted out ready to be potted at the appropriate time; some will need to be done early, while others may be left till the rest of the next month.

If any of the spring bulbs remain in the ground, take them up as soon as the foliage

withers, and keep them in a dry, cool place till time to plant in autumn.

Supports will be needed for all climbers, and they should be kept trained to these supports.

Some of the finest and most perfect flowers from the healthiest and most thrifty plants, should be marked for perfecting seed, and the seed collected as soon as ripe. The seed-vessels of some plants burst, and scatter their seed, as soon as ripe; such should be gathered before they burst, and dried under a sieve, to prevent the seeds scattering away.

Although insects may not be as troublesome as in previous months, yet so long as vegetable growth continues unchecked by frosts, more or less insect enemies will be found committing depredations; their actual destruction by hand-picking is the surest way of ridding ourselves of these troublesome pests.

Few practical gardeners will need be reminded that, however dry the season may be, weeds will grow, but more will need the reminder to keep them down, and that stirring the soil frequently not only keeps out weeds which "pump out the moisture from the soil," but has also the effects of a mulch on the surface, keeping the soil stored with moisture for plants to draw on.

Literary Notices.

ZELL'S POPULAR ENCYCLOPEDIA AND UNIVERSAL HISTORY. Published by T. Ellwood Zell, Philadelphia, Pa.

THE design of this work is to embrace in one compendious volume the advantages of a dictionary, an encyclopedia, both biographical, literary, and geographical, and also a universal history, all complete and suitable for popular use and reference. Very few of the present day are able to purchase a voluminous encyclopedia of twenty or more volumes, while a mere dictionary has no pretension or value as a work for reference on any point of geography, history, biography, general literature, science, and art.

The above encyclopedia combines the advantages of all the foregoing, in a compact form. It is issued in weekly or monthly numbers, and will form, when finished, a handsome and valuable volume.

THE CRANBERRY CULTURIST.—Our friend F. Trowbridge, of Milford, Ct., has put into a very neat little pamphlet his experience in the culture and propagation of cranberries. It will be found of good practical value.

CATALOGUES.—Messrs. Graves, Selover, Willard & Co. have reissued their Catalogue of Ornamental Trees, Shrubs, etc., enlarged and improved by the addition of many appropriate illustrations. The colored frontispiece will be especially liked by recipients.



Vol. 24. SEPTEMBER, 1869. No. 279.

Trips around New-York.

Peter Henderson's Flower Nursery.

MR. HENDERSON'S reputation as the largest commercial florist in the country, together with the nearness of his gardens to New-York, serve to make his place a favorite resort for all who desire to witness specimens of flowers and flower-gardening.

During a recent visit there, in August, we had the good fortune to witness one of his finest displays of flowers and green-house plants, arranged with excellent taste and spread out in ribbon-beds over the smooth-kept lawn. It is true we have seen in Boston a vaster mass of bedding-plants of even the same varieties, but by no means with so happy a grouping.

Here upon the lawn in front of his house, were spread out ten beds, of crescent or circular shape, in which had been placed the choicest of the selections of his green-houses.

In the centre were arranged the differing varieties of the *Coleus* or *Achyranthus*, rising two and two and a half feet in height, while, nestling lower down at their feet, was the *Mountain of Snow Geranium*, with its silvery white foliage, forming a glorious contrast with the luxurious purple overtopping the whole. Here and there were single specimens of the *Coleus* or choice geranium; but these beds, specimens of *ribbon gardening*, were by far the most attractive feature.

Across the street which divides Mr. Henderson's place in two are his green-houses, seventeen in number, each one hundred feet and more in length by eleven in width, while one large one, fully three hundred by twenty, completes the requisites of his winter garden.

The entire houses had long ago emptied their contents out into the fields and beds awaiting them, and there were growing and blooming hundreds and thousands of choice roses, verbenas, geraniums, and lilies.

Of the various roses in bloom at the time of our visit, none pleased us so well as the *General Jacqueminot*, *Charles Lefevre*, and the *Caroline Manais*. The former, crimson-scarlet in color, and thrifty habit; the second, a perfect gem among all of crimson color; the third, a pretty climbing rose, of blush-white color, but literally overflowing with bloom.

Of all geraniums, the *Mountain of Snow* is by far our first fancy, possessing a vigorous growth, and retaining its peculiarities of foliage in the hottest and driest weather.

A bed of three hundred feet by fifty contains the principal varieties of lilies, *rubrum*, *roseum*, etc., which were just opening their delicate flowers. No one can fail to appreciate the *lilium rubrum*. Its exquisite shade of color, delicate perfume, and free flowering habit will make it a popular household flower the country over.

Shall we name other choice things we saw?—the *tropæolum*, *Star of Fire*, with its scarlet flowers of dazzling brightness, and whose luxuriance of bloom will make it as popular as the lilies among flower fanciers.

Shall we talk about petunias, fuschias, and gladiolus, or shall we invite him to unfold to us the mysteries and pleasures of his garden, with graceful hand, telling us of best choice for home-garden, with just a little practical advice as to how to take care of them? The public will read the record of his experience with pleasure. Perhaps his recent work, *Practical Floriculture*, may be thought sufficient; but we believe, like the western explorers of old, that there is *something beyond* yet untold. Full justice has never yet been done to the *ribbon style of gardening*, which so few of our people are acquainted with, and yet nothing can be more handsome, or grow more popular, if it can only be seen once in its highest perfection. Mr. Henderson's experience in his present place lasts over twenty-two years. Since that time he has grown both in knowledge and influence, as well as purse, increasing in business as well as extent of grounds, until now he has 35,000 square feet of glass, ten acres of ground, and accessories, comprising, with improvements and value of land investments, not far from \$150,000, and turning out over a million plants per annum. When we recollect that his first experience was with only one glass-house of a thousand square feet, and compare it with the success of the present day, this rapid rise in business seems extraordinary, and is but another of the frequent instances we meet of *self-made men* and hard-earned fortunes.

A Successful Pear-Orchard.

There are, as yet, in the country, but few notable instances of the successful culture of dwarf or standard pears on a large scale. In the neighborhood of Boston, where pears thrive almost as naturally as the grass of the soil, we call to mind with special pleasure the goodly sight of the fine orchards of C. M. Hovey and Marshall P. Wilder. But west of there, one of the finest examples of real practical success in pear culture over a series of years, that we can call to mind, is that of the Mapes farm, Newark, N. J.

Here, upon a high ridge and running over the top and sloping on each side, is a pear-orchard of over five thousand trees, containing sixty varieties of fruit, and of varying ages from ten to eighteen years, which, at the time of our visit, were nearly all in fine productive condition. Our friend, P. T. Quinn, whose life is associated for so many years with the history of the farm, and has been its manager since the death of Prof. Mapes, long ago was thoroughly familiar with all the arts and appliances necessary to make the practice of agriculture as well as horticulture constantly and eminently successful. From a poor rocky soil, the ground has been brought up into extraordinary fertility, while by the admirable system of choice of crops and methods of cultivation, results have been obtained, year after year, such as would astonish those not familiar with the subject. Mr. Quinn is a champion of *deep plowing*; for the life of the place, and its great success are attributable to no other cause, while the very health and beauty of this noble pear-orchard depend greatly on the system of deep culture, so well practiced, and which has reduced the soil to excellent tilth. Mr. Quinn believes that the best bank is a *bank of earth*, plowed and subsoiled eighteen inches deep, and then manured rightly; given *that*, and there need be no fear of rain or drought, for a well-prepared soil is independent of the weather.

Mr. Quinn has made pear culture a thorough study for more than ten years, watching with interest all the various modes of propagation, culture, pruning, the choice of varieties, and popular preferences in the market; and, like many other sensible men, has waited until he *knew something* before giving his experience to the public in book form.

Here is a row of Lawrence Pears, as fresh and healthy as any thing we have ever

seen, with fine regular shapes, and tall, pyramidal growth; looking down the long row, not a variation of the graceful outline could be discovered; all uniform, erect, beautiful, even to monotony, well fit to be the pride of the orchard. The trees are planted ten feet apart, branch closely to the ground, just nine years of age, and just beginning to yield fruit. The Lawrence is a shy bearer, not yielding good crops until eleven years of age, but after that, by its productiveness, makes up for all deficiencies.

Summer-pruning is one of the prime causes of his success. During the last two weeks of July, a thorough examination of the entire orchard is made with the pruning-knife. All shoots of new growth are trimmed back two thirds, leaving only a short, stout stem. The wounds made with pruning are very soon healed over, while the strength of the tree, being confined to only one third its original space, tends not only to mature the wood fully, but to develop fruit-spurs over the entire surface. This system has been practiced for years, and is the *first point* of success. The tendency of the tree to wood-growth is checked, and turned to producing fruit; while strong, sturdy lower branches are developed, capable of bearing up almost any weight of fruit. This system of summer-pruning not only makes a more symmetrical shape, and a sturdier, stouter tree, but doubles the yield of the fruit. In standard trees, left to grow at their will, observers notice that the fruit is borne away out toward the centre or tips of the limbs; and as the fruit begins to mature, the weight bends over the limb, and almost breaks it. But on any of Mr. Quinn's trees, any limb will sustain the same weight without a curve, and stand erect, as it were, with sturdy sinews, neither bending nor breaking.

Nearly all the trees of recent planting are trained as pyramids, branching close to the ground, and reaching from ten to twenty feet in height. If allowed to grow as usual, with trunks trimmed for five or six feet, the branches would have occupied more lateral space, and yet have yielded no more proportionate fruit. The pyramidal form is practically the easiest, most economical, and most productive method.

The rows, as a rule, are placed twelve feet apart by ten feet in the rows. Nothing is grown between save three rows of rhubarb, which are gradually reduced to one row in the centre as the trees approach fruiting condition.

Mr. Quinn has found by experience that, if an orchard is cultivated in another crop, it seriously injures the trees to grow any thing in the *same rows*, while nothing should come nearer than two to three feet of the trunk. The strawberry, one of the most suitable for this purpose of inter-cultivation, is still one of the most exhausting that could be chosen. A high state of fertility must be maintained if both are to be adequately supported. The ground is stirred but very little, and about the beginning of July a mulch of heavy salt hay or sedge grass, two inches thick, is applied entirely over the entire orchard. This remains during fruiting season, then removed, and the ground stirred a little.

Little or no benefit has been found to accrue from the practice of permitting grass to grow in the orchard. The latitude for the use of this method evidently does not reach north of Philadelphia, and is better adapted to soils and climates west and south of that latitude.

The Duchesse d'Angoulême is the only variety now grown on the quince roots, a very large number of trees being heavily laden with choice large-size fruit.

After a fair experience with dwarf pears of different varieties, Mr. Quinn both asserts, and has facts to prove his assertions, that dwarf trees, as a rule, on quince roots, are a practical failure. All his trees are set low, so as to encourage rooting from the standard stock. And we could not fail to notice that, where such trees did take root, they were double the size and vigor of the dwarfs beside them, and produced twice to three times as much fruit.

It is a noteworthy fact, however, that, for the first two or three years after the standard stock has taken root, the fruit is only of half size and inferior quality; this would seem perfectly natural, as the tree is now making a new wood-growth, and all its vigor is directed toward the formation of a new tree. But it quickly recovers itself, and ever afterward redeems its reputation for fruit of largest size and fine quality.

We have conformed to Mr. Quinn's idea in our own method of planting dwarf trees, namely, putting the junction of the two stocks four to six inches below the surface, and giving every favorable assistance to the formation of roots from the pear-stock. We are satisfied that trees thus grown will be twice as healthy, long-lived, and productive.

Thinning Fruit is a practice Mr. Quinn is particular to observe. Three times during the growing season, the orchard is visited, and superfluous fruit is trimmed off, to allow the remainder to attain proper size and full flavor. If all the fruit that sets were allowed to mature, the result would be a vast mass of medium-sized fruit, bringing less than half-price in the market.

By thinning at least one third off, the remainder attain a double size, and the highest prices are readily attainable. In some cases, the thinning has been fully one half. For due regard must be paid to the health of the trees. All tendency to over-bear, or straining the limbs, must be constantly restrained. It is hard to cut off dozens and hundreds of fruit, knowing that, if they were only ripe, they would be worth \$10 to \$20 per barrel; still it is a necessity unavoidable.

There are several other points worthy of notice. The mulch usually applied merely to assist the health and successful fruiting of the trees, is here also made to serve the double duty of protecting the falling fruit from injury. In nearly all orchards, ripe fruit is constantly falling, and, if it strikes the bare earth, is more or less injured. But the practice of mulching prevents any injury. The fruit falls upon a soft elastic cushion, causing no contusion of the surface to prevent immediate marketing. Another point is, that Mr. Quinn does not aim to bring his trees into early bearing. His first aim is to make the tree, *make it right*—stout, strong, healthy, handsome, able to resist wind or storm, and able to bear in due time the heaviest crops of fruit without any strain.

When this is done, the fruit does not fail to come when wanted. Hence, any one will be a little surprised to hear that ten years is set as the limit for producing the first crop of fruit. A few single specimens of fruit may appear on each tree, for several years previous; but no good crop is expected until the tenth year. Beginners in pear culture are apt to lose all enthusiasm if their trees do not begin to yield large crops in five or six years; and if at time of planting they believed no good crop would be received for ten years, it might act as a discouragement rather than an inducement.

The sagacious will find in this natural cause an argument for the favorable side of *pear culture for profit*, so many being deterred from engaging in this branch of fruit culture because of the length of time before returns accrue, that only a few, and these skillful men, will have the courage and patience to follow it as a business. Still, pear culture is increasing, and, as the prices in our markets show, will be for many years a most remunerative occupation.

The *question of varieties* will naturally interest the horticulturist more than any other. Of the sixty varieties under cultivation, the best for market have been thinned down to only ten, and even a few of these could be spared; still amateurs may find some more successful than others, and species of the whole list will be well chosen for planting.

The Bartlett is still the finest of the standards, almost without a rival as to price in the market, and the most popular of all known kinds. The price of this variety in the market has kept constantly advancing, and the popular demand seems to increase faster than the supply.

Grown as a pyramid, it forms by far the finest tree, of all shapes in which it is grown, and begins to bear early. When full grown, its yield is constant and abundant.

The Duchesse d'Angoulême is the only variety worth attempting to grow as a dwarf. It begins to yield early; but the produce, although increasing yearly to the tenth year, is not so abundant as when allowed to root from the pear-stock. Coming into market when all the early varieties of fruit have gone, it remains steadily profitable and liable to less fluctuation than any other variety.

The Seckel, the finest flavored and most delicious pear grown, is also one of the most

productive and profitable. The fruit on full-grown trees is sometimes a perfect marvel, growing in clusters of three or four, so close together that the tree seems literally covered. This variety is still the highest priced of any known in the market—out-ranking even the Bartlett. Its small size is more than made up in quality and quantity. The tree itself is a beautiful, erect, vigorous grower on the pyramid.

The *Beurré d'Anjou* is one of Mr. Quinn's favorite pears, of largest size, melting flesh, sprightly flavor, and a most abundant bearer. The tree is a handsome grower, and always vigorous and healthy.

The *Vicar of Winkfield*, though not advisable for eating, yet is hardly excelled for profit for cooking purposes. The branches are literally loaded with fruit, bearing fully double and treble as much as any other fruit we have yet seen. It should be in every collection, as it will rank for profit with either the Bartlett or Duchesse d'Angoulême.

The *Louise Bonne de Jersey* on its own roots seems to be a vigorous, healthy tree; but the fruit is not as plenty nor as large as when grown on the quince roots. It is one of the popular pears in the market, and always remunerative. Sometimes uncertain in yielding its crops. Perhaps this may not be the case on all soils.

The *Beurré Clairgeau* ripens at the same time as the Duchesse. Is a pear of largest size, most beautifully tinted on the skin with crimson, yellow, and brown; fine rich flavor, and by far the handsomest and most attractive pear in the market. Does best as a standard on its own roots, and extremely productive. A finer sight can hardly be wished for than to see a perfect tree loaded down with the handsome fruit. If it has a fault, it is its tendency to pitch its leaves in August. If it will hold its leaves in all soils, it is one of the most profitable for general cultivation.

The *Doyenne Boussock* is later than the Bartlett, fine yellow color, slightly brown or red, but of first quality. Is considered one of the most valuable and reliable.

The *Japan Pear* is a new variety from Japan, shoots of which were grafted upon other trees. It resembles the apple in growth, and is the most vigorous variety of pear grown on the place—wood of this year's growth reaching, in August, six to eight feet. It is a fine pear for preserving; hardly desirable for eating. Produces fruit very early, a two-year old graft already bearing fruit.

The *Belle Lucrative*. Here is a delicious pear, in every respect. Of first quality, equal in vigor, productiveness, and other desirable characteristics to any thing we have named. And yet absolutely unknown in the markets, and commanding only half the prices of the rest. It is Mr. Quinn's first choice of the entire orchard. Medium size, beautiful shape; flesh very juicy, with fine texture, a melting rich taste, and highly perfumed flavor. Succeeds admirably with him, and must become as popular, sooner or later, as other first-class varieties.

The *Beurré Diel* has few branches, but very strong fruit-spurs; still does not bear early.

The *Andrews Pear* is one of the best new varieties, of delicious quality, and fine skin, very smooth, nice to handle; still, at present, could be recommended only for amateur purposes.

Mr. Quinn has made himself familiar with the markets, and is able to judge correctly as to the popular demand for fruit, and the average prices of the different varieties. Taking the prices for the past three years, it is a noteworthy fact that they have been *increasing*, rather than decreasing. This augurs favorably for the future of pear culture.

Taking prices as they run in the market, the following list will represent the relative popular preference, from highest to lowest, although even the lowest is worth \$10 per barrel.

BEST MARKET VARIETIES.

Beurré Clairgeau,
Beurré Bosc,
Bartlett,
Seckel,
Duchesse d'Angoulême,

Virgalieu,
Louise Bonne de Jersey,
Beurré Diel,
Flemish Beauty,
Vicar of Winkfield.

Mr. Quinn, however, would recommend only the following list for general culture, finding it best adapted to the purposes of beginners :

Early—Bartlett, Doyenne Boussock.

Medium—Duchesse d'Angoulême, Beurré Clairgeau, Seckel, Beurré Bosc.

Late—Beurré d'Anjou, Lawrence, Vicar of Winkfield.

This list is found the best for Mr. Quinn's soil and latitude, and of course it would be difficult to prescribe lists for all parts of the country ; but these two lists will probably comprise those most valuable in any place, suitable for either near or distant markets. In Mr. Quinn's new book, the subject of pears will be more fully treated, and we know it will be warmly welcomed. As to the profits of pear culture, Mr. Quinn can tell us when he has gathered his fine crop. One year, from a row of about thirty trees, there was gathered about \$700. But we shall be under rather than over the mark, if we say that the present fruit-crop from the entire orchard will yield between \$7000 and \$10,000.

The Century Plant.

UPON the opposite page we present an illustration of the Century Plant which has attracted much attention in Rochester, at the grounds of Messrs. Frost & Co.

It is the *Agave Americana folia variegata*, or striped-leaved American aloe, a variety which has rarely or never flowered in this country before. Its present age is about seventy years, having been purchased in the year 1809, from Prince's Garden, Flushing, L. I., and at that time nearly ten years of age. It has remained in the greenhouse of Messrs. Frost & Co., since 1856 ; but the present year it exhibited unmistakable symptoms of blooming, and has grown with amazing rapidity from three to eight inches per day.

The circumference of the whole plant is 30 feet ; it has 30 leaves measuring 6 feet 6 inches long, 7 inches wide, and 4 inches thick at the base. The flower-stem is 4 inches in diameter, and total height, at latest report, was nearly 20 feet. There are 21 arms or branches, the lower ones averaging 18 inches in length, and tapering in pyramidal form to the top ; at the end of these branches the flowers will appear in large clusters, the lower cluster, now 12 feet from the ground, containing 105 buds well developed.

Mention has been made of one century plant, which flowered at Devonshire, England, some years since, which had a flower-stem twenty-seven feet high, its branches being loaded with 16,000 blossoms ; also one at Cornwall, England, which flowered in 1837, and had flowers of a sulphur-yellow color, above 5 inches in length, to the number of 5088. The stately appearance of the plant, with its gracefully-curved branches expanding like a beautiful candelabra, and sustaining such a number of erect blossoms or buds, the flowers beautifully succeeding each other, presented to the eye a spectacle highly gratifying.

The Rubicon Apple.

IN the July number of your paper, I notice an illustration and description of an apple that originated in an adjoining county, with which I have had some experience. And as I have reason to believe that it will not generally support the good character thus given it, I will offer a few brief notes from my own observations.

It is one of the greatest detriments to true progress in horticulture—this over-praising of new fruits. Yet it is a very common vice, and one from which the best-informed cultivators are not always exempt.

The Rubicon apple—called also the Pawpaw and Western Baldwin—I have grown



in nursery, and have had in bearing in orchard for some fifteen years. It may do better on light soils—mine being a strong clay loam—but, so far, I can not speak greatly in its favor.

While a few specimens of the fruit will keep sound until July, and are very fine, the half of the crop will decay before the first of April; in fact, there are none of the leading sorts that fail so badly with me—not excepting the Vandever Pippin. And, like it, it is affected with black rot on heavy soil.

It has a local reputation for long keeping in the vicinity of its origin, but is grown mostly, I think, on the sand, or soils comparatively light.

The fruit is "about the size of the Baldwin," with some abatement in the best specimens, while an undue proportion is small and inferior.

It must require no little imagination to predict that "it is bound to be the leading market-apple in the West," in a region where the Baldwin succeeds so admirably.

And it certainly argues either a grave latitude of speech or a strange perversity of taste to claim that "it is the most beautiful and long-keeping apple in cultivation," where the Northern Spy is grown in perfection.

I do not wish to be understood as saying that this apple is of no value. It is a hardy tree, somewhat straggling in its growth, and, in a climate where the finer sorts fail, it may be found desirable. But as a rival to our popular sorts in Michigan, the Baldwin, Greening, Northern Spy, and Red Canada need not feel greatly disturbed.

B.

Pleasantries of Rural Literature.

The Cherokee Rose.

THE legend of the Cherokee Rose is as pretty as the flower itself. An Indian chief, of the Seminole tribe, taken prisoner of war by his enemies, the Cherokees, and doomed to torture, fell so seriously ill that it became necessary to wait for his restoration to health before committing him to the fire. And as he lay prostrated by disease in the cabin of the Cherokee warrior, the daughter of the latter, a young, dark-faced maid, was his nurse. She fell in love with the young chieftain, and, wishing to save his life, urged him to escape; but he would not do so unless she would flee with him. She consented. Yet before they had gone far, impelled by soft regret at leaving her home, she asked leave of her lover to return, for the purpose of bearing away some memento of it. So, retracing her footsteps, she broke a sprig of the white rose which was climbing up the poles of her father's tent, and, preserving it during her flight through the wilderness, planted it by the door of her new home among the Seminoles. And from that day this beautiful flower has always been known, between the capes of Florida and throughout the Southern States, by the name of the Cherokee Rose.

It is of rapid growth, and soon forms a hedge as dense as it is beautiful. It runs along the roadsides, likewise, converting roads and fences into thick banks of leaves and flowers. It climbs to the tops of high trees, hanging its festoons among the branches, or letting them droop gracefully to the ground. In fact, this showy wild flower, with its five white petals and centre of gold, imbedded as it is in so many brightly-shining leaves of green, gives almost a bridal aspect to the spring landscape, and well-nigh makes all the citizens' cottages look like homes of the poets.

Love of Gardening among the Ancients.

In some, nature implants the desire of riches; in others, the love of science; some she sends over vast and trackless seas to observe the transit of a planet; others she leads

"O'er vales and mountains to explore,
What healing virtue swells the tender veins
Of herbs and flowers."

Pliny and Nazianzen delighted in gardens; Sallust formed them on so extensive a scale that they retained his name for several ages after his death. "There," says an elegant writer, "in the midst of parterres and porticoes, with an Italian sky over his head, and the statues of Greece before him, the historian produced those rigid lessons of temperance, those strong delineations of character, and those connected views of motives, events, and consequences, which deserve so justly to be called philosophy teaching by example." Lucullus, the conqueror of Mithridates, enjoyed the society of his friends and the wine of Falernium in the splendid gardens which were an honor to his name; and Dion gave one to Speusippus as a mark of peculiar regard. Ahasuerus was accustomed to quit the charms of the banquet to indulge the luxury of his bower; and Tissaphernes had a garden much resembling an English park, which he called "Alcibiades." Semiramis was passionately devoted to the farming of gardens. Pharnabazus, as Xenophon tells us, lamented the destruction of his *paradise* more than the loss of all his property. Atticus was charmed with one his own taste had formed; and the disciples of Epicurus were styled "Philosophers of the Garden" from that which Epicurus had planted at Athens. Cimon embellished the groves of Academus with trees, walks, and fountains; and Cicero enumerates a garden as one of the more suitable employments for old age. Seneca is said to have incurred the hatred of Nero more from having magnificent gardens than any other cause.

Timur built a magnificent palace in the midst of the *Bâghi-Dilensha*, (the garden which rejoiceth the heart,) just then finished in the plain of Khani-Gheul, and gave to both the name of one of his mistresses. Asufad-Dowlah, nabob of Oude, had twenty palaces and a thousand gardens; in one of them was a landscape by Claude Lorraine. Kerine Khan, King of Persia, rendered his gardens at Shiraz the most beautiful of all the East; and Gassendi, who ingrafted the doctrine of Galileo on the theory of Epicurus, took not greater pleasure in feasting his youthful imagination by gazing on the moon, than Cyrus in the cultivation of flowers. "I have measured, dug, and planted the large garden which I have at the gate of Babylon," said that prince, "and never, when my health permits, do I dine until I have labored in it two hours. If there is nothing to be done, I labor in my orchard."

Cyrus is also said to have planted all the Lesser Asia. Lysander being sent to Sardis with rich presents, Cyrus, charmed at the presence of so illustrious a guest, took him into his garden, which was disposed in a manner so tasteful that the Grecian general was delighted with it.

"Every thing I see," said Lysander, "transports me; but I am not so much delighted with the shrubs as with the skill with which the garden is disposed; for there is an order and a symmetry which I have no words to express my admiration of." Cyrus, who was flattered with these compliments, confessed that it was himself who had drawn the plan, and that he had even planted many of the trees and flowers with his own hand. "What!" exclaimed the astonished guest, "is it possible that your majesty, so magnificently clothed, with strings of jewels and bracelets of gold, could employ yourself in the planting of flowers and trees?" "I swear by the god Mythras," interrupted Cyrus, "that I never devote myself to the pleasures of the table till I have induced a profuse perspiration by military exercises or rural employments; and when I apply to those engagements, I never spare myself." "Ah!" said Lysander, presuming to take Cyrus by the hand, "you alone are truly happy, and deserve your station."

Phraortes, one of the kings of India, lived almost entirely on the produce of his garden. "I only drink," said he to Apollonius of Tyana, "as much wine as what I use in my libations to the sun. The game I kill in hunting is all eaten by my friends, and the exercise I get in the chase is found sufficient for myself. My chief food consists of vegetables, and the pith and fruit of the palm-tree, together with the produce of a well-watered garden. Besides, I have many dishes from those trees which I cultivate with my own hand."

Napoleon, when at St. Helena, formed himself a garden. It was square, and of about an acre in extent. "Here," writes one who saw him in this inclosure, "in a

flowered dressing-gown, green slippers, and his head bound round with a crimson silk handkerchief, may be found the once mighty emperor, wielding a watering-pot, turning up the soil, or culling simples." "I walked up and down this scene of imperial gardening," says the same observer, "with considerable interest, trying, but in vain, to discover some marks of the master's hand. It was a very kitchen garden, in the most homely sense of the word; and the genius that produced such transcendent effects upon the plains of Austerlitz and Marengo seems to have served him but little in his encounters with earth and stone."

St. Augustine was greatly attached to the beauties of nature. "One day," says he, in his *Confessions*, "as I was looking out of my window, I fell into a discourse with my mother, respecting the nature of eternal felicity, and, drawing inferences from the flowers and shrubs before us, I proceeded to a consideration of the sun and stars; and thence meditating on the glory of the celestial regions, we became so ravished with our contemplations that for some time we forgot that we were inhabitants of earth."

Petrarch was never happier than when indulging in the same amusement. "I have made myself two gardens," says he, in one of his epistles. "I do not imagine they are to be equaled in all the world; I should feel myself inclined to be angry with fortune, if there were any so beautiful out of Italy."

Gardens of Persia and Java.

The gardens of Persia are said to vie in beauty and luxuriance with any in the universe; and to them the Persians devote their principal attention; hence, when Mirza Abul Hassan was ambassador to the British court, one of his greatest satisfactions arose from occasionally walking unattended in Kensington Gardens.

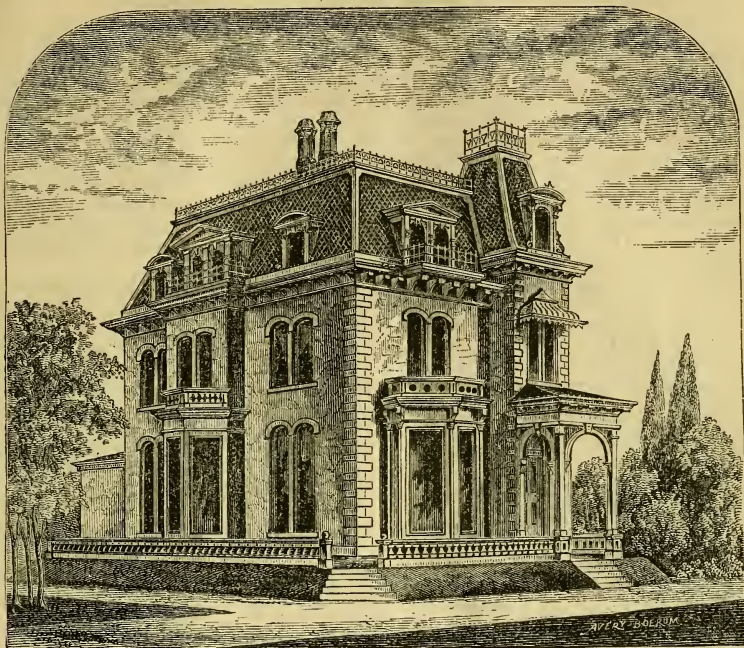
The Assamese are said to have a decided taste for planting, while the Japanese and the resident Tartars of the Crimea derive their principal sustenance and amusement from their gardens.

Those of Fez, in the empire of Morocco, have summer-houses in them. In these they may be said to live, from the beginning of April to the latter end of September.

The Indians of Mexico, in the time of Cortez, were passionately fond of flowers; and the gardens which that commander found at Huaxtepec, were so extensive and beautiful, as he informed Charles V., that they surpassed every thing of the kind he had seen in Europe; while an ambassador to the court of Montezuma could present no offering which would be more highly esteemed than a bouquet; and so partial are the ladies of Lima to flowers that nearly eight hundred pounds are sold in the great square, upon an average, every day.

If a Cingalese possess a garden, he wants but little more. Two jack-trees, a palm-tree or two, and six or eight cocoas furnish him with enough to make him content; and his chief enjoyment is to recline under their shade.

"Of the jack-tree," says Thunberg, "may be prepared no less than fifteen different dishes." The peasantry of Java have, in many districts, gardens attached to their cottages, which are exempt from contributions of every kind. In the regency of Keder, they are so extensive as to constitute one tenth of the district. The gardens the cottagers plant not only with vegetables but with fruit; and no small delight do they experience in sitting under the shade, with their families around them. Some of these cottages are so luxuriantly embowered with foliage of evergreens that they can not be seen till a traveler stands at the very door. And so beautiful do these groups make the country that an elegant as well as an enlightened governor of that country asserts that the clumps which diversify the most skillfully-arranged park can bear no comparison with them in picturesque effect. During the Dutch occupation of this island, most of the vegetables and fruits sold in the "land of friends"—the vegetable market of Batavia—were reared by manumitted slaves, who, upon receiving their freedom, were accustomed to hire a small quantity of land from their former masters. In consequence of which, Batavia was supplied more plentifully with fruits than any city in Europe.



A Suburban Villa in the French Style.

BY SAMUEL SLOAN, ARCHITECT, PHILADELPHIA, PA.

EVERY city has some certain characteristic features of architecture, which appear to have sprung into existence in it, and been there matured. Boston, especially, has a peculiarity or two in its domestic buildings that, we think, might be judiciously adopted elsewhere; for desirable improvements should be shared in by the nation at large, as such are not and ought not to be the exclusive right of any one locality.

The plan here presented, a sample of the French villa style adopted near Boston, is one of peculiar convenience and economy of space. A terrace is obtained by keeping the basement high and sloping the ground from the rear. The effect is good, and the surface-drainage complete.

The design of this villa speaks for itself. The hall is very ample and very convenient, while on the left of the hall are located respectively the drawing-room, library, and dining-room, opening into each other. In the extension are the kitchen and closets.

The second floor contains five very large bed-rooms, while the attic also contains nearly as many capacious rooms. The house is of moderate cost, the main or square portion of which is 31 by 37 feet, with a one-story addition twelve feet wide.

Star Papers.

Distance for Pear-Trees.

HOW far apart shall we plant our pear-trees? Such standard authorities as Thomas, Downing, and Barry uniformly agree on a distance of twenty feet from tree to tree and row to row; and I agree also that it is generally most convenient, where *there is an abundance* of land; but when a man is growing for profit on high-priced land, I think a different rule can be substituted and still work admirably.

I have been visiting lately the grounds of a very successful pear-grower, where, on less than eight acres, there are over twenty-five hundred pear-trees; and such a noble sight of fruit mortal rarely beholds. Here the trees are but ten feet apart in rows, and twelve feet from row to row, and the branches of the most luxuriant varieties sometimes interlock; but usually the outer branches just touch, while the trunk towers up heavenward, in graceful, feathery limbs of fruit.

The trees are all standards, not a dwarf among them, and the height of the trees will average fifteen to twenty feet; yet the diameter of the extent of the branches rarely exceeds ten feet. Upon inquiry, I find that this orchard, for ten years past, has never failed to yield fruit; while others near by, planted more widely distant, frequently fail in alternate years. Again, I found upon inquiry that the trees in the interior of this block of trees always yielded fruit, while those on the outer edge bore only in alternate years large crops, and little or none between.

This curiosity of fruit-culture seemed really a puzzle to me, until after much thinking I hit upon the happy solution, which is simply this, "*mutual protection*." The trees being so closely planted, protect each other; and while the outer rows bear the burden of the winds and storms, the interior trees are quiet, and unaffected with either the winds or the sudden changes of temperature.

While it was evident to my mind that the distances were too close for comfort, or general health and thrift, preventing the use of the ground for any other purpose, still it is sufficient to inform us of the practical benefits to be gained from a closer planting than the distances usually recommended.

I have a strawberry field of six acres, mulched heavily from beginning to end. This fall I shall plant entirely over it standard pears, one year old, in quineunx order—fifteen feet from tree to tree in every direction. Upon those six acres I can thus put two hundred and eighty trees per acre, or sixteen hundred and eighty in all, while in the usual method of planting in rows twenty feet by twenty feet, every tree opposite another, I could put only six hundred upon the entire space. By my quineunx method I gain two hundred and seventy-five per cent in space, protect all my trees better, and yet all have as much natural liberty as is necessary. Ten years hence I will have a fine orchard, and no tree interfere with each neighbor. Am I right or am I not?

Popular Colors for Market Fruits.

What a passion our city people have for *red fruits*! There is scarcely a fruit sent to market, if it contains a red bloom, but is quickly sold; while fruit of other colors, but of equally good quality, is given only the second chance. Now, instead of wondering over this streak of the popular fancy, let us fruit-growers adapt ourselves as quickly to it as possible.

Knowing now that dark-red strawberries sell better than light-red ones, that red cherries sell better than yellow, that red raspberries sell better than black ones, that red apples sell best of all, it is the very best policy now to pursue to plant and grow more of these popular varieties and less of those that have an indifferent appearance.

The Wilson Albany is the favorite strawberry of the million. New strawberries, to be as popular, must have equally as good color and be equally as firm. The finest red raspberry in the market is the Hudson River Antwerp, and any thing to equal it or be its superior must be just as firm, just as large, and just as fine-looking. No variety yet has been found to excel it. Not even the Philadelphia or Clarke; and yet the Antwerp is not worth growing beyond the Hudson River country.

The Bartlett pear is the standard pear of the markets; its beautiful red-tinged color is most attractive to the eyes of the multitude. Growers can never err in planting too much of it, nor nurserymen in growing too large a stock.

The finest-selling apples in the markets are Baldwin and Williams's Favorite. The latter, being early, I have seen sold for ten cents each, and the money freely paid, because of its brilliant red-streaked color.

The Roxbury Russet apple, Seckel pear, and Duchesse d'Angoulême pear are exceptions to this *red* rule, and show that even *quality* rules sometimes over looks.

One thing all planters must bear in remembrance, that, if they plant for market, they must choose *only* those varieties that sell best in the market; but if for experiment or pleasure, any number of varieties will do well enough. There are a few standard varieties of fruit which the public uniformly rely on, and desire no other, and any grower that departs from these few varieties is running risks.

Although there are plenty of cherries equally as good as the Black Tartarian, if not better, yet no one variety will command as high a price as this, and it will last many years before its hold in the market can be displaced.

Fall Planting of Strawberries.

After a good share of experience and well-extended observation, I am satisfied it does not pay to plant strawberries in the fall; by this, I mean large plantations of several acres. I have found fall-planted strawberries more liable to winter-kill; and by the time they have just commenced their new growth in the fall, after transplanting into their new beds, the winter comes upon them and checks their growth suddenly. On comparison of two beds planted side by side, one in the fall and one the next spring, I found that in fruiting-time the next year the spring-planted bed had larger plants, larger berries, more of them, and was generally more thrifty and productive. My theory of strawberry transplanting is that they should be transplanted only in moist weather and allowed to grow naturally, undisturbed, during the entire season. The fall season is too short, and ends too abruptly and severely.

A large number of amateurs think that by planting in August or September a fine crop of fruit can be gained the next season. My experience shows this to be a fallacy to a certain degree. Although there will be a small crop, a few berries on each plant, yet they do not deserve the name of a crop; and I generally clip off all blossoms, believing that *too early* fruiting is more of an injury than a benefit. All strawberries love good treatment; and if any one will observe spring planting, good barn-yard manure, and liberal mulching both summer and winter, he will find the crop that comes the second year amply compensatory for the long time waiting for it.

At what Age shall we Plant Fruit-Trees?

I am fast coming over to the opinion and practice of such men as Phenix, Quinn, and other practical horticulturists, that "*the younger our trees are at time of transplanting, the better their health and growth, and the sooner will they bear fruit.*"

A great many think that a three or four year old tree will bear much sooner than one two years younger, and the nurserymen can testify well to the demand for trees for "*immediate fruiting*;" but I consider it a costly, unsatisfactory practice. Nearly every tree of that age loses by necessity a large portion of its roots by transplanting from the nursery to its future bed; and in order to maintain a healthy, progressive growth, the top must be shortened in, in same proportion, sometimes quite severely; and by the time this is completed, the tree is really little or no better than one a year or two younger. It happens, however, in the majority of cases, that the trees are neither well planted nor well pruned, and the first year's growth after planting in its new home is weak, sickly, stunted, with the least possible prospect of fruit.

To remedy all this, I say choose young trees, not over one or two years old. They are in the long run the best investment, and prove most remunerative. They cost less at the nursery; the freight is less than one half; the trees lose few or no roots; they are more easily set out, saving labor and expensive preparation of the ground, and then they commence a continuous growth, which experiences few or

none of the drawbacks incident to older trees, and at last reward the owner with luxuriant crops of really choice fruit.

It may seem hard to any man to wait five or six years before he can get returns from his investment; but he will find at the end of that time that his one year old trees are better in every respect than his four year old fancies. This rule can be safely applied to all standard trees—apples, pears, plums, peaches, apricots, etc. In no case would I recommend trees over two years of age.

RICHARD ROLLIFFE.

How the Oneida Community Grow Fruit.

THERE is scarcely an active horticulturist in the country but is already aware of the success which has attended the cultivation of fruit, both small and standard, by the above community at Oneida, N. Y. The peculiar principles of temperance and industry which characterize their organization and life have been most favorably developed by their thorough work in farming and horticulture; and they seem not only to have commenced right, but have attained the very amplest results in all they undertook. We have been interested in reading reports of their methods of fruit-culture; and from their *Circular*, as well as other sources, we give a brief abstract of their horticultural labors.

Apples.

The trees are set about thirty feet apart each way. They are kept free from weeds and grass for several years, until they have attained a good size and have begun to fruit. Then a strip, six feet wide, or three feet each side of the row of trees, is seeded down with grass the whole length of the row. The grass growing on these strips is mown several times during the season, and spread upon the ground for mulching and manure. The spaces between the strips of grass are usually cultivated with low crops, such as beans or peas. No orchard, even for a year, has been given up to grazing. Cattle are entirely and rigidly excluded from among all fruit-trees. Every two or three years, the trees are pruned during the latter part of February and the month of March. The trees, as a rule, are very healthy, thriving well and yielding good crops. Over sixty varieties are in cultivation, and over one thousand trees.

Pears.

The experience of the community with pears has been interesting. At the time of the first settlement of the domain, there were none on the place; but in 1852 an orchard of three or four hundred trees was put out.

The ground selected was a gravelly loam, of alluvial formation, contiguous to the creek, and apparently having good natural drainage. For five years the trees grew finely, and began to bear fruit. Severe winters and easterly winds began to injure them severely; then the fire-blight appeared, and became so destructive that less than one half of the original plantation now remains.

The community horticulturists have, in common with fruit-growers all over the country, endeavored to thoroughly study the blight, its nature, causes, etc.; and their observations give a few facts of practical value.

Low, damp, or badly-drained soils are favorable conditions, if not causes of blight. The orchard above referred to was set in a deep gravelly loam, which was supposed to have good natural drainage; but subsequent experience showed this was erroneous; for there was found beneath the gravelly loam a gravelly substratum of several feet in depth, so closely packed as to be always cold and damp, and really affording no effective drainage. As soon as the roots of the pear-trees began to penetrate this damp and compacted substratum, the blight began to appear.

On the other hand, another orchard, planted since then, on a high, dry hillside, in a soil of very deep and light sandy loam—almost entirely sand, in fact—and which

has really abundant natural drainage, has been entirely free from blight, and produces very healthy fruit of great beauty and excellence. In a dwarf orchard, also, which is on land intermediate in location between the two orchards above named, and which has been thoroughly underdrained, wherever the soil is dry and sandy and of great depth, with good natural drainage, the trees have been free from blight, are more healthy and vigorous every way, and produce better fruit than elsewhere. Moreover, the trees on the deep, dry, sandy locations grow slower, ripen their wood more thoroughly, and are thus better prepared to endure the extreme cold or the sudden changes of our Northern winters.

There are now over eleven hundred trees in cultivation, and the varieties which have thus far proved most reliable are the Tyson, Gauset's Bergamot, Rostiezer, Bartlett, Seckel, Louise Bonne de Jersey, Duchesse d'Angoulême, Belle Lucrative, Flemish Beauty, Beurré Batchelier, Beurré Bosc, and Winter Nelis.

The Beurré Clairgeau is hardy and bears fine crops, but the fruit is generally of poor flavor. The Oswego Beurré makes fine healthy trees, but gives light crops.

Plums.

The plum orchards contain two hundred trees of the following varieties: McLaughlin, Lombard, Yellow Gage, Smith's Orleans, Imperial Gage, Washington, Schenectady Catharine, Purple Magnum Bonum, Blue Damson, and several new seedlings.

These prove to be the hardiest varieties, particularly the two first-named.

The trees are set ten feet apart in the rows, and the ground is well cultivated. The severity of the winters prevents continual crops; and if a good crop is obtained every two or three years, it will pay well for the care and culture of the trees.

Besides this, here as elsewhere, the principal difficulty is with the *curculio*. This pest appears in May, and continues for nearly a month. The only effectual method of arresting their depredations is to jar the trees in the early morning, over two large white sheets, stretched on each side of the tree, and held near the branches. The *curculio* is inactive in the cool morning air, and a sudden blow on the tree causes it to drop on the sheet, where it is easily seen and secured. In one season a *curculio* hunt was instituted, and during twenty-seven days upward of nine thousand were killed. The result was that a good crop of fruit was secured, where otherwise probably not a single plum would have been saved.

Grapes.

Thirty varieties are cultivated. Of these the Concord, Delaware, Hartford Prolific, Rebecca, Rogers's No. 19, and Creveling are at present the leading sorts. The Diana has proved very unsatisfactory, failing to ripen well, and rotting badly; otherwise it is a fine grape, and the best late keeper. *Deep trenching* they have found hardly worth recommending. Deep sub-soiling, in combination with thorough under-draining, is better. Before planting, the ground is thoroughly enriched; the vines are then set ten feet apart in the rows: the rows are seven feet apart. For the first two years, they are trained to stakes, and for the first year some low crop—strawberries or vegetables—is grown between the rows.

After two years, posts are set at intervals in the rows, and two wires are stretched on the posts. The lower wire is eighteen inches from the ground; the upper one is eighteen inches higher. Four canes are raised from the ground. Two are trained horizontally right and left on the lower wire, the other two are carried to the upper wire and trained in the same way. In the fall, after the crop has been ripened, the bearing canes are cut away to the ground. Their places are to be taken the following year by four *new* canes, which have been grown during the season, and which, while growing, are trained to a stake.

In summer, the bearing vines are kept well pinched back, only two leaves being left beyond the last cluster. From two to three clusters are allowed on a spur or lateral. This method of training has thus far been found satisfactory, and favorable to the early ripening of the fruit. The community were led to adopt it by noticing

that *young* wood grown from the body of the vine, *near to the ground*, gave earlier fruit than older wood. Canes trained *horizontally* were also found to ripen their fruit better, and give better satisfaction in other respects, than when trained upright. In November, after being pruned, the canes are carefully bent down and covered with a few inches of earth, as a winter protection.

The time of ripening was in the following order: Hartford Prolific and Delaware, September 6th; Adirondack, September 15th; Rogers's No. 19, September 15th; Creveling, September 15th; Concord, September 20th; Rebecca, September 28th; Union Village, September 30th; To Kalon, October 4th.

Small Fruits.

RASPBERRIES.—Over nine acres have been planted in various kinds, such as the following: Brinckle's Orange, Doolittle's Black-cap, Philadelphia, Fastolf, Hudson River Antwerp, Hornet, and Clarke. The question is still undecided as to which is the most profitable per acre. Brinckle's Orange is the finest-flavored berry, commands the highest price in market, and is most sought after by dealers and consumers of preserved fruit. Philadelphia, perfectly hardy, and bears abundantly; fruit not best flavor. Doolittle, good bearer, perfectly hardy, and a very fine berry for market, table use, and preserving.

STRAWBERRIES.—Three to four acres has been the average size of the strawberry field for several years past, and the crop in some cases as high as four hundred bushels. The leading varieties are Wilson's Albany and Triomphe de Gand. The finest crops have been raised on sandy loam, thoroughly sub-soiled, and well manured. Barn-yard manure, and muck composted, have usually been used for strawberries. Good results have also been obtained from hen-manure. The most satisfactory and profitable method of growing the plant has been found to be in *hills*. The plants are set about a foot apart in the rows, the rows thirty inches apart. During the first season, the plantation is carefully cultivated and kept free from weeds. All runners are kept cut off. Late in the fall, the vines are thoroughly mulched with straw, spread evenly over them about two inches in depth. Early the following spring, as soon as the ground has ceased to freeze, the mulching is removed from over the plants and spread *around* them and between the rows, to keep the fruit clean. Any weeds that appear in the early part of the season are also destroyed. As a general rule, it has not been found very profitable to take more than *one* crop from the vines. This has been particularly true of the Wilson, which seems to exhaust itself in the heavy crop of the first year.

The community have a branch at Wallingford, Ct., where a large quantity is also raised, and shipped to Boston; and both settlements seem to be fortunately situated for shipping fruit and obtaining good prices. Both are able to ship fruit to New-York or Boston with equal convenience and same freight, and at a moment's notice can send to any other point and take advantage of good prices. Their fruit can thus be either sent to a late market or to an early one.

Vegetables.

Their experience has also been quite satisfactory with garden products, and the following list has been compiled from an experience of several years, and is considered a superior assortment:

Asparagus.—Large Purple.
Celery.—White Solid.
Egg-Plant.—Large Improved New-York.
Cucumber, (*table use*).—Early Russian, White Spine. (*Pickles*).—Long Green, Boston Pickling.
Cabbage.—Early Winningstadt, Marblehead Mammoth, Cannon-Ball, Improved Savoy, Late Bristol.
Cauliflower.—Thorburn's Nonpareil.
Parsnip.—Guernsey or Cup.

Squashes.—Summer Crook-neck, Golden Japan, Hubbard, Sweet Potato.
Turnip.—White French.
Pepper.—Sweet Mountain.
Spinach.—Round Leaf and New-England.
Lettuce.—Early Curled Siberia, Ice Drumhead.
Scotch Kale.—Green Curled.
Nutmeg Melons.—Ward's Nectar, Green Citron.
Watermelons.—Early Mountain Sweet, Black Spanish, South-Carolina Imperial.



Notes on New Fruits.

The Prairie Farmer Strawberry is the name given to a new western variety, originated by William D. Neff, Ottawa, Illinois, with the following characteristics, as described by the journal after whom it has been named:

"A strong grower. Leaves large, dark green above, pale below; fruit very large, oblong compressed or ovate, occasionally coxcombed irregular, apex truncated, vertically grooved, seeds deeply imbedded; texture firm, color deep scarlet and remarkably uniform to the centre; subacid, good flavor, (flower not seen.)

"This plant is a seedling from the *Agriculturist*, and is supposed to have been crossed with the *Wilson's Albany*.

"The seeds, from which Mr. Neff produced about one hundred and twenty plants, were taken from the two first berries upon one plant of the *Agriculturist*, which grew in a bed of *Wilson's*. These seeds were immediately planted out in rows three inches apart. In late fall they were mulched with prairie hay, and went through the winter in fine condition. The following spring about seventy of these plants were transplanted into a row, the plants being placed one foot apart in the row. During the summer they made a bed about five feet wide, giving no fruit. The next season all the plants fruited profusely. From among them two gave evidence of particular value, and eight or ten were good. The most promising of all, as a market berry, is the one described above, first called '*Neff's Commercial*,' but now changed to '*The Prairie Farmer*.' The flavor of the berry is much like that of the *Wilson*, though we judge a little less acid. It is very large, showy, and solid in texture. The plant is a very strong grower, foot-stalks large and tall, and as thoroughly hermaphrodite as the *Wilson*, according to Mr. Neff's statement. It is represented as having a fruit season longer than the *Agriculturist* or *Wilson*, and ripening some eight or ten days later than the latter."

New Raspberries.

MR. FULLER contributes to *The Rural New-Yorker* notes of several new varieties now growing on his place:

"*Parry's No. 1*.—This is one of the many thousands of seedlings raised by William Parry, the well-known nurseryman of New-Jersey. I received a few plants of it two years since, and as it has proved hardy, prolific, and of excellent quality, I think it worthy of being placed on the *Rural's* catalogue of new fruits. I do not know whether Mr. Parry has given it a name, or propagated a stock for the purpose of dissemination; but if he has done either, he will probably inform the public of the facts at the proper time.

"It is large, regular, conical; bright crimson; grains small, compact, and of a uniform size; moderately firm; juicy, sprightly and good; canes vigorous and erect, slightly tinged with purple; spines few, and of same color as the canes; leaves large, dark green, with a rather smooth surface; leaflets three to five broad, ovate, sparsely toothed, and serrate. Hardy, vigorous, and productive. Probably a seedling of some native species.

"*Parry's No. 2*.—Received from same source as the preceding variety. Fruit large, obtuse, conical, often perfectly globular; light crimson; grains medium, compact, and uniform in size; firm, juicy and good; canes erect, vigorous; tinged with purple; spines few and scattering, purplish. Leaves medium to large, rather flat, and with smooth upper surface; leaflets ovate, acuminate and finely serrate. Hardy and productive, native.

"*Arnold's No. 3*.—Raised by Charles Arnold, Paris, Ontario. Medium, roundish, conical, pale lemon-yellow at first, changing to light orange; grains large; only moderately compact;

rather soft, juicy, and good flavor; canes strong but spreading, with many slender lateral branches; bark light glaucous green; spines numerous and very rigid; leaves medium, light green; leaflets three to seven, oblong, acuminate. Hardy and very productive. Mr. Arnold has produced quite a number of hybrid raspberries, and this is one of the best."

During our visit recently to Mr. Fuller's place, we observed the above, and were very favorably impressed with all three. Mr. Parry's seedlings seemed all to have the merit of extreme abundance, more so than any other red raspberry we have ever seen, but not all of best quality, and also varying greatly in size. One of them—Parry's No. 2, we think it is—is especially noteworthy, the fruit being in every respect better than the Philadelphia, larger, firmer, better flavor, and fully as productive, has somewhat of a trailing habit, hanging close to the ground. If picked just before fully ripe, we should judge it would become a good market variety.

Of Arnold's seedlings, we think No. 2 the best, the red being much smaller, and not as productive or well flavored. Still they will be more fully tried, and the public will learn of their true value in time.

The Hamilton Black-Cap Raspberry.

THE *Southern Farmer*, of Memphis, Tennessee, for July, 1869, gives account of this new variety as follows:

"The discoverer of this new raspberry is Mr. Hamilton, a successful horticulturist, near Bartlett's Station, Tennessee. Two years ago, he was attracted to a wild raspberry bush, from the abundance of its fruit and the size of the berries surpassing any thing he had ever seen. He removed the bush in the fall, and has propagated several thousand. The crop this year surpasses his expectations. He placed a box of fruit on our table the first of June. We have never seen a Black-Cap that equals it in size and sweetness of berry—nearly double the size of Doolittle's Black-Cap, and much sweeter. It is, without doubt, a valuable variety."

Herstine's Seedlings.

THE editor of the *Gardener's Monthly* has been visiting the grounds of David W. Herstine, Philadelphia, and gives an account of the most promising raspberry seedlings which he has originated within the past few years. Two of them, Nos. 1 and 3, are spoken of as promising to be of great value:

"The first was a pretty sight; we think no variety of the foreign class could possibly have a more abundant crop. We counted one average panicle, and multiplied by the whole average of panicles; it gave *two thousand fruit*.

"The fruit is as large as Hornet, as good as the Allen, which it somewhat resembles in form and color, except that there is more of a vermilion tint with the scarlet.

"The canes are very strong and vigorous, as much so as the Hornet was in its best day.

"No. 3 is a very deliciously flavored berry, resembling no one that we know in this particular."

The Fruit Committee of the Pennsylvania Horticultural Society have also reported favorably, as follows:

"Mr. Herstine has been for many years engaged in raising seedlings, of which he has produced several hundreds, and has discarded successively all that were inferior, until they have been reduced to a very small number of very promising varieties. Our attention was particularly directed to three sorts, crosses between the Allen and Philadelphia, raised from the seeds of the former, and partaking of the qualities of both parents—one of which was especially interesting. In general appearance the fruit of this one more nearly resembles the 'Imperial' than any we can call to mind, though somewhat longer. It is as large as the Hornet, but is of a bright scarlet color—flesh quite firm, and of an excellent flavor. The plant is an early bearer and a strong grower; young canes of light green color, with few and short spines; leaves large, thick, dark green, and abundant, and is quite as productive as the Philadelphia."

The editor of *The Practical Farmer* has seen it, and is surprised at its productiveness:

"No. 1 combines the several points of hardness, (having stood out three winters without protection,) being a strong and vigorous grower, having a very handsome scarlet berry of good quality, in size *fully equal to the Hornet*, and above and besides the rest a *most profuse bearer*. The largest berry measures three inches in circumference. We have never seen such a load of fruit on a single bush. Between three and four quarts of raspberries were picked from one stool."

It seems that no plants are to be sold for a long time to come; hence the opportunity of testing it in various parts of the country will not come for some time.

The Pearl Raspberry.

THE editor of *The Practical Farmer* is much pleased with this, giving the following description:

"At Reese Pyatt's, on the West-Chester road, about twelve miles from Philadelphia, we

found growing in great luxuriance a raspberry called the 'Pearl.' This is of a firm texture, so as to carry well to market, and of a bright scarlet color—always an attraction to purchasers. In market, after carrying twelve miles, it looks as fresh as if just picked. They have retailed readily at fifty cents per quart, being fifteen to eighteen cents over market price. The Pearl is a *profuse* bearer, of full medium size, *fruiting early and picking late*, and is a decided acquisition. We found it at several places—at Samuel Holmes's, in Burlington County, New-Jersey, who has about eight acres of it in full profit; also at William Parry's, and other places. Being curious in such matters, we have tried to trace up its history, as to who named it, and where it originated—but without success. It is now growing to a considerable extent in Delaware, New-Jersey, and Pennsylvania; and in the Wilmington market under the name of *Susqueco*, as well as in Philadelphia, brings an extra price, and has a uniform reputation."

New Blackberry.

THE following account is furnished by *The Vineland Independent* :

"Mr. Fish, of North-Vineland, exhibited a blackberry seedling, which he had brought from Long Island, but which he had carefully abstained from exhibiting until years of cultivation had proved its beneficial character. He was now prepared to say that it had from the first been a berry of great promise, but that now it was beyond all question, on some points, ahead of all those in common cultivation. He claimed that it was fleshy and firm, with a full and aromatic flavor, and though smaller than some others, was, in his opinion, one that would be some day a very popular berry.

"Mr. Fish, besides the bush, which was loaded with fruit and promises of more, furnished members and visitors with a taste of the fruit, handing round his 'quart of fellowship' for demonstration."

It is proper to state, however, that it is not a large berry, like the Wilson and Kittatinny but rather small.

Turner Raspberry.

A NEW variety, grown in Morgan County, Ill., by Mr. Baldwin, and described in *The Prairie Farmer* as follows :

"Prof. Turner's history of this berry is, that about twenty-five years since he sowed, close to his house, the seed of the Red Antwerp, in the hopes of getting a berry that would stand the intense cold of our winters better than the Antwerp. The product of this sowing was not such as to satisfy him. The ground where those canes stood being required for other purposes, they were transplanted into a hedge in the remote part of a garden, where they remained unnoticed until brought to light by the professor seeing some splendid berries in the hands of his children, some ten years after the setting of the canes in the hedge, and, on examination, he concluded that they were seedlings from those he experimented on. Their apparent hardiness and very superior quality induced Mr. Baldwin and Mr. Collins to propagate them; and at present Mr. Baldwin, whose berries are in market here, has ten acres under cultivation. In the mean time, the professor has entirely neglected them, and this fall will have to restock from Mr. Baldwin's nursery. The professor states that they have stood the severest winters of the last twenty years without flinching. As to quality, I consider myself a first-rate judge of the raspberry, and unhesitatingly say that in size and flavor they are far ahead of any raspberry I ever saw in the United States. Mr. Baldwin, who is an English gardener, also says that there is nothing like them in England, many of the berries being as large as fair-sized strawberries, and a beautiful crimson color. If they are hardy, there is nothing like their fruit in the raspberry line."

With such overwhelming description, we would decline buying. It is too much of a good thing. Only to think! Raspberries as big as the biggest strawberries and "*grown in a hedge*." Can any one guarantee plants pure?

Moore's Seedling Strawberry.

THE editor of *The Country Gentleman* has had a short experience with it, and considers it "early, productive, and of fine quality."

New Early Peach.

THE *Washington Chronicle*, of the 7th inst., has an account of a new early peach, which is as follows: "We were shown, a few days since, a very remarkable specimen of early peaches, grown in the orchard of Colonel E. J. Plowden, St. Mary's County, Md., about seventy-five miles south of this city. The fruit is solid, beautifully formed, and delicately colored, and one of the peaches measured fully eight inches in circumference. They seem to be of a variety never before known, and ripen at a much earlier period than Hale's celebrated peach, which has hitherto been the earliest in the market. The specimens shown us were gathered on the 26th of last month. We understand that Colonel Plowden has made arrangements for sending this

early fruit by express to the New-York market, which point can be reached in eighteen hours. Specimens of these peaches have been sent to the Agricultural Department, and are much admired by Commissioner Capron."

Deane Apple.

THE Lewiston, Me., *Journal* thus describes a new apple: "Among the productions of Franklin County which are spoken highly of is the Deane apple, known sometimes under the name of the nine-ounce apple. It is described as an excellent, fine looking and eating apple, of large size, and will keep on shelves till February. The tree spreads low, and is hardy. It seems to be a great favorite among those who cultivate it. It originated, we believe, in Tennessee."

Empress Eugenie Strawberry.

A NEW variety, which originated with a Mr. Lemory, near Portsmouth, Va., "ripens immediately after the Triomphe de Gand, larger in size than any variety now cultivated, superseded only by the Russell in yield, and resembles the Jucunda in flavor." It appears, however, to be similar to the Golden Queen, (Trollope's Victoria,) the description of the one nearly corresponding with that of the other.

Turner's Seedling Strawberries.

AT the West-Jersey Fruit Growers' Exhibition, June 10th, John Turner exhibited several new seedlings—five named varieties: Turner's Queen; great bearer, large. Turner's Favorite; strong, vigorous, large. Turner's Nonesuch; high foot-stalk, full. Turner's Prolific; great bearer. Turner's Beauties; handsome, good flavor. All looked well and sold high, at fifty cents per quart. Had them in cultivation four years.

Peak's Emperor

is a new variety, originated with a Mr. Peak, of South-Bend, Indiana, and is a cross of Wilson and Hovey introduced by Purdy and Johnston. The plant is remarkably strong and vigorous; the fruit is *very* large, ovate, elongate, deep crimson, of good flavor, and firm consistency. Its season is medium to late, or about with the Jucunda. But I foresee that it is to be a subject of controversy, as in form, color, and flavor it bears a strong resemblance to the Agriculturist, and those who disseminate it will be accused of selling an old berry under a new name. I tried the Agriculturist two years on the same soil as that now occupied by Peak's Emperor, and it did so poorly that I plowed it under. Mr. Purdy declares that this seedling was produced by Mr. Peak before the Agriculturist was heard of in that section.—*American Farmer, Rochester, N. Y.*

Special Stimulants for Strawberries.

It is sometimes well to use a little fertilizing solution to stimulate laggard plants into activity. We have always found solid manures like ashes, bone-meal, and superphosphates, most conducive to the health and productiveness of the plants, but they need hurrying sometimes.

Potash water has a very vivifying effect, and not only stimulates a great development of leaves, but produces an immense quantity of runners. Care must be used not to have too strong a solution, a pound of potash to a barrel of water being amply sufficient. Apply twice a week just before evening.

Sulphate of Ammonia is of special excellence, being cheap, quick, and very effective. The same proportion as above, or less, can be used in watering, but less is better than more. If used too liberally or in too strong solutions, it has the same effect as guano water—namely, to burn up the fruit and vine at once. A friend who experimented with it upon his lawn last year, applied it too strong, and the grass was burned up; but this year, wherever applied, the grass has sprung up earlier, more luxuriant, and of a deeper green than any other portion of the place, making a very effective contrast in favor of the use of the fertilizer. If well diluted with water, it may be used with safety and produce immediate effects of an agreeable nature.

A Lancaster correspondent of *The Small Fruit Recorder* gives the result of an experiment which he also made:

"I procured a half-hogshead, filled it with rain-water, and put into it one quarter-pound of ammonia, and one quarter-pound of common nitre. When the strawberry plants were blossoming out, I gave them a sprinkling of the solution at evening, twice a week, until the fruit was nearly full size. The result was nearly double the amount of fruit on those which the liquid was applied to, than was obtained from vines right alongside, where none of the liquid was applied."

We met lately with a recipe used by an English gardener for the preparation of an invigorating fluid, as follows: Take four ounces sulphate of ammonia, two ounces nitrate potash, one ounce white sugar, and one pint hot water, of which, when all dissolved, add one table-spoonful to one gallon of water, and water your plants freely. Keep the bottle tightly

corked, as its strength will evaporate; and use twice a week for plants that you desire should make a rapid growth. This is highly recommended, and is said to prove as beneficial as guano, without its disagreeable odor.

Pear Culture for Profit.

THE culture of pears has become, of late years, a subject hardly less important and popular than that of small fruits. But the public still lack an authoritative guide as to the best choice of varieties for *profit* entirely, and wait patiently for the appearance of the right work. The "Tribune Association" have published a new book by P. T. Quinn, of Newark, N. J., on this subject, which, we doubt not, will fill the gap completely. Mr. Quinn has been familiar with his subject and all its practical details for so many years that the public have good reason to expect a valuable volume from his pen.

The subjects treated are as follows: "Varieties, Aspect, Preparation of the Soil, Distance apart, Selecting Trees, Dwarfs and Standards, Time of Planting, Planting, Digging Trees from the Nursery Row and Packing, Varieties to Plant, Pruning, Manuring and Mulching, Gathering Fruit, Marketing Pears, Profits of Pear Culture, Propagation, Budding and Grafting, Suggestions."

Successful Strawberry Culture.

EVERY body knows that Mr. Knox, of Pittsburg, is a successful fruit-grower, and his Jucunda strawberries are the admiration of thousands of delighted eaters in this city; but *how is it done*, is the great question. It is hardly to be supposed that any beginner can receive the same price for his fruit that Mr. Knox is able to command; for he has a reputation gained by long experience and dealing with the public; but it is truth to say that if the *same system* were pursued, the results of strawberry culture, in any hands, would be much more remunerative than at present.

Mr. Meehan gives us an eye-sight as to the secret of Mr. Knox's success:

"Many have supposed that Mr. Knox's success, if not owing to soil, was the result of the peculiar variety he cultivates, and thus much demand has arisen for his Jucunda; but it is easy to perceive that success does not lie in this; for he has Fillmore, Triumph de Gand, and Agriculturist nearly as good. The great secret is his manner of treatment, which is essentially different from any thing about our city. His soil is naturally rich and dry, but he applies a coat of rich manure at the first plowing. The plants are set in the spring, rather close in the rows, and the runners kept cut back by hand. This cutting back is one great secret. He has found that the production of runners and fruit are antagonistic forces. Then he has learned, first, that deep culture after the ground is prepared is an injury. Hence he will have no horse-culture but all the weeds are kept down by hand-hoes. In the winter, the plants are covered with rye-straw, and after the first hoeing in spring, the straw is carefully laid between the rows, serving the treble purpose of keeping the fruit clean, preventing the growth of weeds, and screening the ground from the hot sun in summer. On this last he lays great stress. By fall, this straw becomes dry and crumbles, and forms an additional fertilizer. Thus the beds are continued in bearing three or four years before they get worn out, affording him, he contends, a greater return with less labor, although dispensing with so much horse work, than is possible under any other plan.

"Familiar as I am with superior fruit-crops, I have never known any thing to equal this. The size of the berries was the largest that any one ever saw, and might easily be mistaken by a near-sighted observer for tomatoes. The interest of the matter, however, does not centre so much in the large size of the berries as in the number of them. I have seen, probably, as great a weight per acre on the grounds of Philadelphia growers, but nowhere the same measure of large fruit. In most strawberry crops a few large berries come at first, and a mass of small ones follow; here there are comparatively few of the latter, and the great advantage is that, while in times of abundance the inferior ones glut the market, and are only sold at a loss to the grower, the superior fruit is never abundant, and readily commands high prices."

A Wonderful Yield of Strawberries.

WE sometimes hear of what has been done on a small bed of fruit, or perhaps an eighth of an acre; but such wonderful yields rarely or never hold good in proportion for larger spaces under cultivation.

The only instance of the kind we have thus far met with was in the case of a strawberry-field of one acre and a half, near Boston, planted in hills, on good moist soil, with Scott's Lady of the Lake and Boston Pine strawberries. The yield was 8500 quarts, and the fruit sold, either on the spot or in Boston, for 30 cents to 35 cents per quart. The net proceeds exceeded \$2500.

We venture to assert that no field of the same extent in any other part of the country has produced like it, or realized as much money. Big crops are few and far between.

Curiosities of Horticultural Literature.

WE are a little amused at the curiosities of journalism, both in this city and at other points west of it. We have a very good neighbor, a good agricultural journal, with fine circulation, and a genial man at the head of it, whose only misfortune is, that it possesses two or three horticultural editors, each determined to be right, and each contradicting one another. For instance, the *Bishop Strawberry* "*came all the way from Canada*," one editor says immediately it is a humbug, and as he is a learned and wise man, it must be so; we believe him; but then a month afterward another editor writes, "And although some energetic men in the Farmer's Club have condemned it, it has qualities that, for the amateur, make it a good berry. The plant is vigorous, with a large, broad, ovate, light green leaf; a long foot-stalk, but not sufficiently stout to keep them off the ground; hence, mulching is requisite with it. The berries are large, of a rich, light, yet deep scarlet, glossy, and having almost a neck; surface, firm; flesh, roseate white, with a moderately rich, good flavor."

Whom are we to believe now, "which or t'other?"

The Nicanor Strawberry.

HERE is another curiosity. At the various clubs in New-York, as well as in New-Jersey and Pennsylvania, this variety was declared hardly desirable for either market or amateur purposes, and hence was rated second-class. No one disputes the fact that its flavor is good, if the plant is only good too. But it does not adapt itself to the soils of New-Jersey, and generally around New-York; but in sections west of us we receive most enthusiastic reports; at Rochester, it is a marvel; in Ohio, it is reported to be "ahead of all other varieties—as promising to supercede the Wilson." In a third locality "does not give sufficient size, while for shipment it is feared that it may prove too soft."

It must be trying to horticultural readers to weed the truth out of such contradictory remarks, and it shows how little value can be placed upon the opinion of any one person in any one section of the country. We must all experiment, and the average report must be our final guide.

The Charles Downing Strawberry.

HERE is another curiosity. Near New-York it is all that could be wished for, yet in Ohio it does so poorly that one writer regrets the name of a good man was given to it, and hints that it was possibly done to *meet the pecuniary interests of a dealer*.

We do not think so. The variety has given thus far a good record in a majority of trials, and we think the name was bestowed by an honest man upon an honest fruit; and further, that the fruit is perfectly satisfactory to the "good man" after whom it was named.

The Wise Men of the East vs. The Mexican Ever-Bearing Strawberry.

A NEW phase in this affair has arisen, since the visit of Thomas Meehan and F. R. Elliott to the grounds of the proprietors of the Mexican Ever-Bearing Strawberry; and the labored article of one of our horticultural friends, to prove its identity with the old Red Alpines seems, in view of these recent disclosures, to be *wasted powder*.

Sharing somewhat the popular feeling against it, we too have criticised it severely; but as we are always anxious to have *the truth* appear, we make place for the following:

F. R. Elliott sent for some of the plants, and here is his report:

"I planted the plants; they grew, produced fruit and threw out runners, on which also came fruit. I had the old Alpine in my ground, in just as good condition; but although I had seen it throw out its runners, and bear fruit, I felt that this was a new *variety*, and on July 13th, 1869, I visited the town of Dundee, in Monroe County, Mich., for the purpose of seeing what was claimed for and what was really the Mexican Strawberry.

"Then I saw nearly an acre of a light, moderately good, sandy loam soil, in which the plants of this Mexican Strawberry were growing under what such good cultivators as Knox would call slovenly neglect—in fact, the plants had no order or form of position, but were made to subserve to the raids of white clover and weeds, and help themselves to the spare spots; this they had done, however, most thoroughly; and if there is anything in advising 'no culture' as best, according to our valued friend Meehan, then this berry is one of the sorts to be used in carrying out the practice. The abundance of fruit, the vigor of the plants, the numerous new runners set with fruit, the blossoms and the newly formed fruit-stems pushing up, that the plants of this variety showed on the day of my visit, I confess surprised me. It was greater in every respect than I ever before saw on any of the Alpine class; and I do not hesitate to say that I count it a *distinct variety*, and quite valuable. As to its being a distinct species from *Fragaria vesca*, I shall not assert; I doubt it; but that is a matter of no consequence to the fruit-grower, and only a question of botany for botanists to decide.

"It is possible, nay probable, that the unusual amount of rains this season have had something to do with the great amount of fruit and flowers that were on this plant; and it would

have been gratifying to have had a bed of old Red Alpine side by side to compare. Nevertheless, I had that, although on a small scale, at home—and while I should not expect in a dry season to see the quantity of fruit and flowers as now seen, yet I have no doubt of its superiority in that respect."

We give Mr. Meehan's statement also, without any comment:

"At Dundee, on the grounds of Mr. Scranton, we had the opportunity to see beds of the Mexican Ever-Bearing Strawberry. There were probably two acres of them in full bearing, and we regard it as one of the prettiest sights we ever saw. It is clearly an Alpine variety of *Fragaria vesca*, and the botanist who has made it a species is undoubtedly in fault, and yet he may be pardoned; for though an Alpine, it is just as much superior to the Alpines common in cultivation as the Jucunda or Wilson's Albany is superior to the little trash of former days. The fruit was not as large as the finest Albany; but fully equal in size to much of the Albany crop sold in market.

"Then, as to the amount of the crop, the usual varieties of Alpines are very poor bearers; but so great was the profusion here that, from an estimate we made, we would not be afraid to guarantee *two hundred bushels* to the acre during the whole season; a half-bushel could easily be gathered from eight square yards, making about forty bushels per acre at a single picking.

"This variety is readily distinguished from other Alpines grown by its greater tendency to produce blossom.

"We have seen Alpines bear a few flowers occasionally from the runners, but this one bears profusely from the runners as they grow."

Will the Curculio Fly?

SOME people seem to doubt the ability of the insect that stings our plums to fly. If they will cut off the head of one, his wing-caps will be so loosened that they may be picked up with a knife. Under the caps will be found wings. In this respect they are furnished not unlike our Colorado potato bug. In order to test their flying ability, I brought in six curculios and placed them on a newspaper on my show-case. After a little traveling, four of the six took wing. They first raised their wing-covers a little, projected their wings behind them, their own length, and rose circularly into the air, after the manner of a bee about to return to his hive. Two that were recaptured and placed upon the paper again took wing.

So all the remedies that are applied to the body of the tree to prevent their crawling up are of no account. Last year I protected a portion of my trees by a dense smoking a half-dozen times, at intervals of three days or a week. Those trees I smoked had a fair crop. Those not smoked were all destroyed by curculio. This year I am trying the jarring process. Two trees whose crop of plums were allowed, when stung by curculio, to drop and rot upon the ground, furnish more insects than four trees will of those upon which the crop was saved. This argues that the stung fruit should be picked and not allowed to lie upon the ground and suffer the insect to escape.—*L. L. Fairchild, in Country Gentleman.*

Cost of Grape Trellis.

T. S. HUBBARD, of Fredonia, N. Y., contribute to the *Rural New-Yorker* the following items of expenses of a grape trellis per acre:

An acre of grapes, with rows eight feet apart and fifteen rods long, will contain twenty-two rows, or three hundred and thirty rods of trellis and one thousand rods of wire, using three wires to a row. The following is the estimated cost per acre, at present prices, for a trellis complete.

44 braces, hemlock, at 7c.	\$3 08
44 short stakes for foot of braces, at 3c.	1 32
132 small pins for end posts.	30
44 end posts, 5 inch chestnut, at 20c.	8 80
200 smaller posts, say 3½ inch, at 10c.	20 00
8 lbs. staples, at 12½c.	1 00
Driving posts, three days.	4 50
Putting up wire, braces, etc., four days.	6 00
Total.	\$45 00

Size of wire.	No. feet per 100 lbs.	Cost per 100 lbs.	No. lbs. per acre.	Cost of wire per acre.	Total cost per acre.
No. 9	1634	\$7 78	1010	\$78 58	\$123 58
No. 10	2000	8 50	825	70 12	115 12
No. 11	2519	8 50	655	55 67	100 67
No. 12	3333	8 86	495	43 86	88 86

We use No. 12 first quality annealed wire, and consider it nearly or quite as good as a larger size. The cost of posts and expenses of putting up trellis will vary in different places.

Expense of bringing an Acre of Grapes into Bearing.

THE same writer furnishes a few items from his own experience on this point.

Average cost of land per acre.....	\$100 00
Average cost of plants	40 00
Repairing ground, subsoiling, etc.....	10 00
Setting plants, and work, first year.....	25 00
Interest.....	10 00
Cost at the end of first year.....	\$185 00
Work, second year.....	20 00
Interest.....	13 00
Cost at the end of second year.....	\$218 00
Trellis, third year.....	90 00
Work, third year.....	50 00
Interest.....	22 00
	\$380 00
Deduct one ton grapes, at 8c. net.....	160 00
Cost at the end of third year.....	\$220 00
<i>Cost after Third Year per Acre, each Year.</i>	
Tying up, seven days	\$ 10 50
Cultivating, man and horse, three days	9 00
Hoeing, six days.....	9 00
Pinching, thinning, rubbing out, etc., five days.....	7 50
Picking two tons, eight days.....	12 00
Pruning, five days.....	10 00
Twine and willow, for tying	1 00
Interest on \$300.....	21 00
Repairs.....	5 00
Total expense per year.....	\$ 85 00
Two tons marketable grapes, at 8c. net.....	320 00
Net profit per acre.....	\$235 00

Many varieties will average much more than the above, but we consider eight cents net as a fair average, and as much as it is safe to calculate upon, with a mixed vineyard of common varieties. Expense of preparing land and cultivating in some sections will exceed our estimate. Many poor grapes will undoubtedly be sold at low rates; but with good care, clean culture, and a moderate crop, so as to leave the vigor of the vine unimpaired, we think it safe to estimate the price at eight cents for several years to come."

Danger to our Raspberries and Blackberries.

A CONSIDERABLE interest has been excited lately by the statement that our raspberries and blackberries were endangered by a new disease, or fungus, which affects their growth and spreads rapidly. In the June number of *The Entomologist* there is a communication from Charles Parry, Cinnaminson, N. J., on this subject:

"Toward the middle of May this orange-colored fungus, about the size of the head of a common pin, is found in quantities on the lower surface of blackberry and raspberry leaves. Mr. Parry thinks it is a fungoid growth, and, if its ravages can not be checked, it will prevent the culture of blackberries and black-cap raspberries.

"Several years ago, Mr. Parry noticed it upon the dew-berries round the fences. Next it attacked the Doolittle black raspberry, and last year it made an inroad upon the Dorchester blackberries. The fruit-spurs that shoot out in the spring, after they are affected, lose the power of blooming, and consequently set no fruit. It spreads quite rapidly, and the bushes affected have a thin, spindling growth. Blackberries and raspberries have no enemy that I know of that threatens to be as serious as this. We have not succeeded in arresting this scourge by any means that we have yet tried. Mr. Parry inquires of the editor of *The Entomologist* whether he thinks that, if all the parts of the plant affected were cut off and burned, the new shoots would be diseased? The editor says this might be effectual. He recommends dusting the bushes with sulphur."

Shall we Grow our Trees with Low or High Tops?

A CORRESPONDENT of the St. Louis *Journal of Agriculture* argues in favor of low tops:

"We have never heard but two reasons assigned for growing trees with a high head. One is not defensible, and the other is wholly mercenary. Train your trees to high heads, say the Alton men, as it is easier to pound the curculio off them. Another class would give the trees high heads so as to make it convenient to plow immediately under them, without danger of being caught by the hair and swung, Absalom-like, in mid-air. They want to continually crop their orchard, and give their trees to understand that they are merely in their places by sufferance.

"Now, I believe there are ten reasons to one why a tree should have a low top. But before I give them, let us settle upon a definite standard for a low-top tree, so all may comprehend the subject that we are discussing. Let us call, then, every thing under three feet (from the limbs to the ground) of the peach, plum, and cherry, a low-top tree; and every thing under four feet of the pear and apple.

"The following are some of the chief reasons for training trees with low heads: They resist storms better. This is especially important on the prairies, across which the wind sweeps with such violence. If a tree is trained with a low head, its shade will keep the ground around its roots moister, and protect its trunk from the burning heat of the sun. They can be trimmed more readily and to better advantage. The fruit can be gathered more easily. The amount of material required to make an additional foot of trunk is thrown into the body of the tree, making the limbs of more service to bear fruit. There are also strong grounds for believing that the longevity of the tree will be increased. Can Dr. Hull show weightier reasons than these for training to high tops? If so, let us have them."

Dr. Hull's Cherry-Orchard.

THE Alton (Ill.) Horticultural Society, always wide awake on horticultural subjects, appointed a committee to visit Dr. Hull's cherry-orchard, at the time the fruit was ripe, and we make the following extract:

"Dr. Hull had rubbed off the fruit-spurs at the beginning of the season, sometimes to the extent of seven eighths. One tree had not been so treated, and had on a very full crop, but the fruit was smaller than on the trees that had been thinned. The committee could not tell which produced the most fruit, as much of that on the thinned trees had been gathered. They were of opinion that thinning out does not produce more fruit, but it is larger, and they regarded Dr. Hull's method as the best way to thin. Dr. Hull has about eighty trees, and he stated that he would trench to the depth of six feet for planting cherry-trees. This the committee thought was unnecessary in a soil where grape-roots would run down to the depth of twenty feet, as Dr. Hull said that his had done. The following is a list of Dr. Hull's varieties: Black Bigarreau of Savoy, Knight's Early Black, Governor Wood, Black Tartarian, Elton, Gridley, Black Eagle, Napoleon Bigarreau, English Morello, Cleveland Bigarreau, Belle de Choisy, Yellow Spanish, Arnden White Heart, May Duke, Belle Magnifique, Bigarreau de May, Downer's late, and Elkhorn. Of these, Knight's Early Black, Bigarreau de May, and Arnden White Heart are the earliest; Knight's Early Black, Black Bigarreau of Savoy, and Gridley, the three best in quality; and Gridley, Napoleon Bigarreau, and Yellow Spanish the most profitable. The trees had been planted ten feet apart, but were found to be too close, and one half had been root-pruned with a view to removal."

Economizing waste Strawberries.

THE Strawberry seems to be entirely unlike every other kind of small fruit, in its capacity for economization and preservation for any length of time.

Blackberries, Raspberries, Currants, Cherries, etc., can be dried or made into wine, but the Strawberry, by far the most abundant in its produce, and more popular to the public taste, is entirely unfit for any such purpose.

This want of future economization has probably done more than any thing else to cause gluts in our markets, and to make it so unprofitable as a market crop.

Can not this be remedied? We think it can. There are certain ways by which waste berries may be made useful, and thus prevent a total loss to any grower who finds himself overshadowed by a glutted market.

1st. Thin out the fruit, and send the very biggest berries to market steadily; we never knew big fruit sold at a loss.

2d. Let the fruit-growers encourage the establishment of canning-factories near large shipping stations, who will contract for second-class berries at a fair price—of, say, six to ten cents per quart—and engage the last half of their strawberry produce to them; or,

3d. They may be made into strawberry cordials, syrups, wine, or vinegar.

A shrewd commission dealer in this city told the writer recently, that, when strawberries were so plenty last spring in the market, and sold for prices hardly sufficient to cover freight, an experiment was made, by taking some of the softest and most worthless berries, pouring them into an air-tight barrel, mashing them well, then allowing them to ferment for a day or two. At the end of that time the barrel was closed air-tight, and the fluid permitted to stand and clarify, and drawn off into a clean barrel to remain permanently. After a time, it would make excellent vinegar. We had the pleasure of tasting some of this liquid, and found it of pleasant quality, with less acidity than cider-vinegar, and a better color. The character of the article seemed of a very superior nature, and it remains to be seen what the keeping qualities are and the cost may be.

A strawberry *wine* or *cordial* may be made by taking three quarts of water, three pounds of sugar, and one quart of strawberry-juice, putting the mixture in a barrel and leaving the bung out for fermentation.

The berries should be mashed with the hulls on, three quarts making one quart of juice. When fermentation subsides the barrel is closed up.

For vinegar purposes, we compute, fresh strawberries will be worth three to four cents per quart, and five to six cents as a cordial or wine. This is better than to allow them to rot on the ground, or to send to market and get one cent less than expenses.

We much prefer the canning establishments, and if such large fruit localities as Vineland, Hammon, Burlington, and other points, would patronize them, the supply of fruit in the markets could be regulated so well as to save disastrous seasons of over-supply.

The President Wilder Strawberry.

With the exception of a few interested individuals in Boston and vicinity, few or none in that vast extent of country lying west of the "Hub" know any thing of the real value of that much-advertised variety, and they would like the opinion of an honest person.

During our recent trip to Boston, we visited the grounds of President Wilder, at Dorchester, rambled under his pear-trees, noting their beautiful shapes, relative productiveness and vigor, eating his raspberries, and currants, and cherries, peeping into his greenhouse and catching a good smell of his lilies, walking up and down his paths, with true enjoyment, and examining the identical bed of the famous "Wilder strawberry."

The fruit was not yet gone, and quite a number of good berries were still found by pushing over the leaves. We ate and kept eating until we were satisfied.

Now, what is the result of our test? We reply:

That the plant is a good, hardy, handsome, vigorous grower, a good bearer, and fruit of fair quality. It is sweet in taste, but not highly perfumed. The color is crimson of medium shade, neither dark nor very light; the shape is fine, round, but slightly pointed, with moderately firm flesh; the interior is colored crimson to one third of the distance from the surface, the rest solid to the centre, and entirely white.

This variety is like all other new varieties under good culture—a good many large berries are produced. Usually each fruit-stalk bears two very large, handsome berries, while the rest are of medium size, although none are very small.

If we were to make criticisms, we would say that it is not as high-flavored as it is represented to be. Again, it has a tendency to softness, although not strongly marked, the flesh being reasonably firm for home markets, but not for general culture or shipping purposes. It will not be a market berry in the strict sense of the word. We observe that quite a number of the berries have the long neck, so peculiar to other varieties, like the Boyden's No. 30. We have always found such berries unfit for market purposes, the tendency to softness developing itself after cultivation for several years.

And, lastly, we are very much afraid that its growth and success will be confined entirely to good soils, and not on light, loamy, or sandy locations; still, we suspend judgment on this point, as well as that of productiveness, until we hear from actual trial in different parts of the country.

As far as we have been able to judge, our candid opinion is, that it is a good fruit, worthy of its name, and desirable for amateur purposes.

In comparison with other new varieties already before the public, we would, however, say that it is not as high-flavored as either the Napoleon III. or Charles Downing, not as large as Boyden's No. 30, not as productive as either of the two last, and not likely to be as popular for general culture as the Charles Downing.

We consider the Charles Downing strawberry the most valuable variety for general cultivation that has originated within twenty-five years. We shall be pleased if the Wilder strawberry becomes more successful.

Our commendations must end here; for we fear that the country has already pronounced an unfavorable judgment as to the manner of distribution of the plants.

We should judge that the number of plants propagated on President Wilder's place, taken away this spring and propagated again elsewhere, will reach, this fall, not far from one hundred thousand plants.

The Wilder strawberry is not a very new variety; for it has been in existence for eight years, and there were on hand at his place this spring fully twenty-five thousand plants—enough to have supplied premium purposes twice over.

Skillful propagators can estimate the probable number that will come from these between the 1st of June and the 1st of September or October.

The policy of delaying delivery of the plants from spring until fall will cause a general disappointment to recipients, and elicit any thing but favorable comments.

Have we Varieties enough?

AN eminent lecturer had occasion not long ago to censure the American spirit of eager search after horticultural novelties, which in the majority of cases proved useless, and also the anxiety to have as many varieties of fruits under cultivation as possible. He recommends a choice only of those standard kinds which have been tried and found of deserved excellence.

"Out of a thousand varieties of the apple, less than fifty will be found eminently profitable; out of the whole list of cherries, not three are worth a place in your grounds; out of nearly two thousand varieties of pears, twenty will cover the very best for the orchard; out of a list of peaches, not a dozen have been proved; out of the almost endless lists of new grapes, the really profitable, thus far proved, do not number a score. Out of the lists of plums, I ask you to name three that give you fruit. Out of the hundred of new strawberries, what have you for market but the Wilson? Out of the endless list of raspberries that fill your gardens like worthless weeds, what have you, beyond the purple cane and black-cap, of any commercial value? Out of the list of blackberries, are you really satisfied with any in open ground? Have you any better currant than the Versailles, a more profitable gooseberry than the Houghton, a better rhubarb than Mayatt's Victoria and Linnæus? Why, then, run after new things, or take the word of some interested party? The rage for novelties among horticulturists is one of the great drawbacks."

Were we to adopt this style of reasoning from one who has little interest in horticultural matters, and carry out the line of argument, it would produce an effect no less disastrous than unworthy of the spirit of our institutions.

The life of horticulture is not in considering the good things of the past, but a constant looking forward to *improvement*. Take away this laudable ambition which so worthily inspires our best horticulturists, and our horticultural societies would lose all interest, horticultural literature would drag slowly along, and horticultural pursuits be but a slow and tiresome round, growing more and more dull and dead.

Does that lecturer know that no single variety succeeds on any two soils alike, and that his much liked Catawba grape is so unreliable as to prove as much a loss to the planter as a profit? Are we to be always content with a Concord, excellent as it may be in characteristics of growth, but of flavor quite indifferent, and not make efforts at improvement?

Is the Wilson's Albany always to be forced upon us, and we to be debarred the possible chance of one new kind to take its place, with every good quality it now possesses, but a better flavor?

Are we to be content always with the Antwerp and Philadelphia raspberries, and make no efforts to get any new kind to prove hardier and of better flavor? Is there not a possible chance for even a better blackberry than the Wilson or the Kittatinny?

Can we not find a peach as early as the Hale's, but free from its tendency to rot?

We certainly think there is no class of fruit grown, but every one of its varieties has proved to possess a fault in either a greater or less degree, and, while it is always unwise for us to create a rage for any new thing of *untried merit*, it is wise for all to seek and to get any thing that is proved to possess genuine and superior characteristics.

It is the fault of our horticulture of the present day that the people generally do not experiment enough, and do not take sufficiently active interest in real horticultural progress.

We can never do "*too much*," but what we can do, we can do well, and still keep trying.

Sugar-Beet in New-Jersey.

EXPERIMENTS are now to be commenced in New-Jersey, in the culture of the Sugar-Beet. A large farm of one hundred acres, at Atsion, N. J., has been purchased by Col. William E. Patterson, and a complete set of Fowler's Steam Plows has been received to put the tract quickly under cultivation. The results of the experiments are being closely watched, especially by the Department of Agriculture at Washington. We believe that an enterprise of the same character started in Illinois, two years since, has proved the culture of the sugar-beet both feasible and profitable for manufacturing purposes, although we have heard very little of the Illinois manufactory lately.

Prang's Chromos.

THE art of chromo-lithography has reached such a state of perfection that the very choicest oil painting can now be reproduced with the most faithful accuracy and in the most delicate taste. Messrs. Prang & Co., of Boston, Mass., have favored us with four of the finest of their collection of fruits, named respectively Raspberries, Currants, Cherries, and Strawberries. As we compared them with the originals in Mr. Prang's studio, we could not discover a perceptible difference from the oil paintings, and yet in many cases—shades of color, etc.—there was noticeable a very great improvement.

The entire series is most admirable in delineations, the fruit is arranged in the most natural manner, and the colors are of the most beautiful shades possible to select.

Prang's chromos have now become household pictures, scattered widely throughout the land; but, with the possession of these choice new chromos, we may well hope for an increased appreciation of natural as well as artificial beauty—horticulture thus tending to become as popular as the pictures of it.

Going West.

MR. F. W. WOODWARD, who has been associated with *THE HORTICULTURIST* for six years or more, has relinquished his interest in the book publication business in this city, and has left us to take up a residence in Wisconsin, as agent for the sale of the lands of the Cornell University, located in that State. We always regret to see either old friends leave us or old landmarks removed; but a wider and MORE PROFITABLE field of usefulness is open for his exertions. The publication and sale of Horticultural Books, etc., will still be continued at the office of *THE HORTICULTURIST*, as heretofore, and letters should be directed to the present proprietor.

Correction.

MESSRS. ELLWANGER & BAREY desire us to state that the box of Marshal Niel Rose, containing half a dozen plants, was intended to be complimentary, and the bill sent was an oversight.

Napoleon III. Strawberry.

AMONG all the new varieties of strawberries we are especially pleased with the Napoleon III. Its fruit is of a firm texture, just right for market, good color, delicious taste, stands up well from the ground, a good grower, quite productive, and uniformly large. Its season, however, is quite late, but this is a quality of much greater value than is usually supposed. Late strawberries are now paying better for market than early ones; because the rush is over, the demand is steady, with little or no change, and usually at very remunerative prices. If this variety will adapt itself to different soils, we can not do better than indorse it as one of the very best varieties now before the public. Last year it "promised well;" this year it is fulfilling its promises much beyond what was anticipated of it.

Floricultural Notes.

Marshal Niel Rose on Gloire de Dijon.

A CORRESPONDENT of *The Florist and Pomologist* has been experimenting with budding roses upon a variety of stocks, and expatiates upon his success with the Gloire de Dijon as a stock for *that most lovely of all roses, the Maréchal Niel*.

"Two years ago, as well as last year, I placed some buds of the Maréchal in about the middle and more matured part of some grossly-grown shoots of Gloire de Dijon. The buds having taken, I reduced the young shoots upon the stock, in each following spring, down to the buds which had formed prominently, as a preliminary to making a strong 'start,' and the result, as to progress afterward made, both in regard to the growth and the profusion of bloom, has surpassed any thing I could have wished for. The buds grew so as literally to exceed the stock in size, and the base of each bud has so enlarged as to overlap the wood upon which it was inserted. The young shoots made thereon last season exceeded in some instances ten or twelve feet in length. One thing I have noticed particularly in connection with the Gloire de Dijon as a stock, which is, that if an *old* branch or branchlet be worked, and afterward cut into the bud as is customary, the bud of the Maréchal so placed seems to lose its capability of growing large, and produces wonderfully shortened growth in regard to its branches, while it yields blossoms much more profusely. I therefore advise all who have a large plant of the Gloire to try its effects either way upon Maréchal Niel."

New Rose—Madame la Baronne de Rothschild.

This was considered last year in England as *the rose of the year*, and it is pleasant to learn that the experience of the present season has more than confirmed all that has been said in its favor. *The Florist and Pomologist* considers it "the best flower of its color in cultivation; for beautiful as are such roses as Maguerite de St. Amand, Monsieur Noman, etc., they must yield the palm to Madame la Baronne de Rothschild, with its large, deep, globular flowers, and its clear, silvery pink, delicate color, with perfectly smooth, immensely large, thick petals. The

habit is remarkably robust, the foliage ample, and altogether it is one of the most noble and beautiful of all pale perpetual roses."

Plants for Room Vases or Table Decoration.

THE following is a selection of plants really worth possessing, as they will be found more or less beautiful objects, as well as hardy when compared with other stove or tender plants.

Of flowering plants, some Orchids are superior to all for decoration, if in medium-sized pots. The beautiful and fragrant *Aërides*, *Cattleyas*, with their varieties, suitable for cool temperatures, and the numerous tribe of *Dendrobium*, are all excellent for this purpose, being very effective in vases, where they may be singly seen, and without their foliage or bloom in any way being injured.

The *Anthurium Scherzerianum* stands almost unrivaled, remaining so long in bloom and blooming so profusely.

Dwarf and well-grown plants of the two varieties of *Poinsettia* are also very admirable, as the singularity and richness of the scarlet bracts contrast so well with the bright green leaves. The best plan to obtain good young plants is to strike cuttings in March, allow them to become a little pot-bound before winter, keeping them about three or four inches from the glass, and, when showing their scarlet bracts, to give a liberal supply of manure water. By pursuing this method, these floral leaves may be grown ten or twelve inches long—that is, twenty or twenty-four inches across what is usually designated the bloom.

Euphorbia jacquiniæflora is very free-blooming, handsome for a vase, and well worthy of cultivation.

Of handsomely foliaged plants, nothing can supersede a well-colored *Dracæna* or *Croton*, as the change of temperature, if not too low, appears to have no effect upon either. These being easy plants to propagate and manage, are particularly deserving of notice, as keeping them clean by syringing and exposing them fully to light to color well, are the only attentions which are essential for them. *Marantas* and *Alocasias*, on the contrary, are easily injured, and will not bear moving much, requiring always bottom heat and high temperature, as well as a damp atmosphere.

Plants of *Caladiums*, when small, will answer well, but as they need plenty of moisture at the roots when growing; do not allow them to suffer from want of it.—*Journal of Horticulture, London.*

Popular Flowers and Shrubs.

At a meeting of the Fruit Growers' Society of Western New-York, at Rochester, last June, notes were given as to the best varieties of roses and ornamental shrubs for popular culture, and the ballots indicated the following decisions:

Best Flowering Shrubs.—*Deutzia gracilis*; *Deutzia crenata*, flore pleno, (double); *Spiræa lanceolata*, flore pleno, (double); *Spiræa prunifolia*, flore pleno, (double); *Weigelia rosea*; *Pyrus Japonica*, or Japan Quince; *Prunus Trilobata*, (double); Purple Fringe, or *Rhus Cotinus*; White Fringe, or *Chionanthus*; Double Rose Flowering Thorn; Persian Lilac; Snowball; Tartarian Honeysuckle; Dwarf double-flowering Almond; *Syringa*.

Six Best Climbing Roses.—Queen of the Prairie, rosy red; Queen of the Belgians, pure white; Dundee Rambler, white, tinged with red; Baltimore Belle, pale blush; Belle of America; Belle of Washington, deep rose.

Best Hybrid Perpetuals.—William Griffith, rosy lilac; Senatam Vaine, bright red; Pius the Ninth, purplish red; Madame Julie Daran, vermilion red; Madame Charles Crepelet, rosy crimson; Madame Charles Wood, brilliant red; Prince Camille de Rohan, velvety maroon; La Brillante, transparent carmine; Jew Hopper, deep rose, crimson centre; General Jacqueminot, crimson scarlet; Baronne Prevost, deep rose, very large; Beauty of Waltham, rosy crimson.

New Varieties of the Coleus in England.

A CORRESPONDENT of *The Gardener's Chronicle* gives valuable opinions as to the merits of the new *Coleus* lately produced there, some of them splendid acquisitions:

"In the Horticultural Society's collections, the most unique, in my opinion, is *Coleus Bausei*; it is, however, as a pot-plant under glass that it tells to most advantage. There its dark plum-color comes out the clearest and brightest, and the green beading of its very regularly toothed leaves is just enough to set it off and make it charming. In the open ground, judging from the past season, it becomes rather dingy and ineffective in color. *C. Saundersii* is the next best for pot-culture; while for bedding out, the best I believe to be *C. Ruckeri*, which becomes almost quite black, and *C. Scottii*, which is very dark, intermixed with green streaks.

"For depth of color I incline to Princess Royal. Queen Victoria is exceedingly pleasing and very effective. Then for nobility of aspect, I name Albert Victor and its partner Baroness

Rothschild. Duke of Edinburgh is striking and unique; and, in contrast to all these, comes Princess Beatrice, a dwarf habited, pale yellow sort.

"To these foliaged varieties I may just add one thorough gem—one worth cultivating for its flowers, which are deep blue, and produced in great abundance in October and November—and this is *Coleus lanuginosus*, a plant requiring exactly the same treatment as *Salvia splendens*, for which it forms a pleasing companion."

The Evening Primrose.

A writer in the *Rural World* says:

"We have one kind of evening primrose in our garden that is a perfect beauty: It is *Enothera macrocarpa*, or large flowering. It is a perennial; hardy; has lived over winter uncovered and unharmed; it is of low, dwarf, spreading, compact habit, not growing over one foot high, and is perhaps two feet broad, with a dozen or more shoots or stems, each stem prepared to furnish, each evening, one of its large, most beautiful, brightest of sulphur-yellow flowers—a charming yellow indeed. The flowers are nearly five inches across, and it is quite amusing to watch them and see them expand, which they do by jerks that are very perceptible. A neat, hardy plant, with showy, beautiful, long-continued and most interesting flowers—we all think it is."

Oregon Flowers.

A LADY correspondent from Oregon, to the *Cincinnati Commercial*, writes most interestingly as to the natural beauty of the wild flowers and shrubs of that great Pacific State:

"Just think, ye botany classes of Ohio, of finding fifty specimens of uncultivated flowers, in all their beauty, before the 7th of April, in 45 degrees north latitude, not enumerating any of the salix or birch trees, or any of the loftier forest trees, among which are maples, with their pendulous racemes four inches in length, or the tall, dark-hued pine, the oak, or the ash, with its brown clusters of stamens. Great beds of truly showy trilliums, of three different species, adorn the woods, and I have seen acres of the graceful yellow erythroniums, some of them two feet high, with four of their lily flowers on one peduncle. Two or three kinds of Solomon's Seal, the racemosa as fragrant as mignonette. The dodecatheon and rose-colored dielytra are quite common, and the scarlet columbines far excel those seen with childhood eyes on the hills of New-Hampshire. Strawberries grow everywhere, and the rich-flavored fruit is gathered in June by the bushel. Added to these are umbelliferas, cruciferas, and several delicate strangers to which I am anxiously waiting a scientific introduction.

"Of the beauty of some of the flowering shrubs I can not speak in too extravagant terms. The mahonia, here called Oregon grape, with its dark, glossy, spirous leaves surrounding at the summit, perhaps, a dozen racemes of brilliant yellow flowers, is a fine contrast to the starved specimens on College Hill. I have seen this vine here twenty-five feet in height. Near this, on one side, may be the service-berry of tree dignity, and on the other the queen of shrubs, the ribes sanguineum, a crimson currant, appreciated in its "own country" by having a place with its Missouri relative and the exotic lilac, in the front yard. One species of sambucus, with pyramidal cymes of offensive odor, I do not claim as an old friend; while its sister, our sweet-elder, I find near the house with a firm trunk, towering up thirty feet, having bid its shrubby companions an ambitious good-by. The salmon-berry, so called from the color of its fruit, has a rose-like blossom, but so scattered that the bush is not showy. The coffee-berry is a small shrub, white-blossomed, and bearing a nauseous fruit. A cherry-tree, with only God's culture, stands near its care-fed sisters, fairly vying with them in the prodigal beauty and fragrance of its bloom."

A Large Rhododendron.

The *Gardener's Chronicle* acknowledges the receipt of a photograph of a monster Rhododendron, growing in the grounds of J. A. Tinne, Esq., which has been the finest object on the lawn for many years. "It is a hybrid from the old *R. ponticum*, and fifteen feet eight inches in height, and thirty-one and a half feet in diameter. Such plants are a grand and telling feature in pleasure grounds." Are there any more such to be found?

Hints for the Month.

OUR crowded space this month prevents the appearance of our usual department of "Hints." These hints and suggestions, prepared by one of our most experienced and observing of gardeners, have elicited a general expression of commendation for their practical nature and painstaking desire to give detailed information appropriate to the season. Although many journals throughout the country possess departments of a similar nature, yet we believe THE HORTICULTURIST and *Gardener's Monthly* are still unrivaled in excellency, according to their respective styles. It is a feature of horticultural literature always worth reading.

Literary Notices.

FIVE ACRES TOO MUCH. By Robert R. Roosevelt. Harper & Bros., New-York. 296 pages.

MR. ROOSEVELT, impelled like hundreds of others, with a love of country life, purchased a place at Flushing, and determined to enjoy the delights of gardening and fruit-growing, as far as *Ten Acres Enough and Gardening for Profit* could assist with their encouragement and advice. Mr. Roosevelt, after a few years of experience, characterized by more mishaps and failures than successes, in this humorous volume relates, in a quaint, rollicking, jovial way, how he made the garden pay, and how he enjoyed his country home. The book is intended to be a humorous offset to the highly colored volumes that appear now and then, descriptive of the great profits to be derived from cultivating small places of ten rods to ten acres, and the burlesque hits, although sometimes extravagant, still give a vivacity to the narrative which will do more good than harm.

It is sufficient to say that at last, with due patience, his vegetables consented to grow, and his fruit-trees to yield fruit, but for a time his *five acres* were *too much*, both for pocket or pleasure.—Price, \$2.

EUROPEAN VINEYARDS. By William J. Flagg. New-York: Harper & Bros. 332 pages.

MR. FLAGG bears evidence in this volume of being a very close observer of every thing occurring within his travels; and after three seasons' experience in European vineyards, France, Switzerland, and Germany, he has recorded his impressions in the above valuable book. The spice of travel, its incidents and pleasures, are thrown in to relieve the descriptions of the various processes of wine-making, and the entire series of sketches proves of the most entertaining nature. There is a supplement to the volume, in the form of a manual for the sulphuring of diseased vines, and results, by H. H. Mares, of Montpellier; also a very valuable chapter on "How they plant vines in Souche," giving some very curious methods of training. The vineyardist can not fail to be well pleased with the purchase and perusal of the book.

THE PRACTICAL POULTRY-KEEPER. By L. Wright. New-York: Orange Judd & Co. 243 pages.

A POULTRY-FANCIER, either for pleasure or profit, could hardly ask for more useful information than is given here. The description of the characteristic points and excellences of each breed is very full and complete, while the hints as to general management are very plain and sensible.

WEDLOCK. By S. R. Wells. New-York. 238 pages.

A VERY neatly printed book, descriptive of

marriage, its history, associations, poetry, customs, ceremonies, and other points of social interest and value. It is well written, quite entertaining, and the information is much better than usually found in books of that character. It does not treat of the physiology of marriage, but only as a social institution.

TRANSACTIONS OF THE AMERICAN INSTITUTE. New-York. 1867-8. 1048 pages.

WE have a goodly row of these yearly volumes in our library, and would think it a serious loss to be deprived of any new ones that appear. The proceedings of the Farmer's Club are reported here in full, and form the principal feature of the volume. The present one is the most complete ever issued, although devoted more largely than ever to reports of proceedings of the Polytechnic Association.

ALABAMA: A STATEMENT OF HER REVENUES.

By John C. Keffer. Montgomery, Ala.

This pamphlet has been prepared by the Commissioner of Industrial Resources for the State, for the purpose of attracting attention to the rich and cheap lands of the State, and as an inducement to emigrants. The mineral resources of the State are particularly valuable. The South needs improvement vastly, and we shall be glad to see it well settled by enterprising settlers.

TRANSACTIONS OF ILLINOIS STATE HORTICULTURAL SOCIETY. 1868. Prairie Farmer Co. Chicago.

A MORE valuable horticultural volume has not been issued for years. Containing over 350 pages of closely printed matter, every line of which is useful and every idea practical, it would be difficult to imagine any thing better adapted to the needs of Western fruit-growers.

It seems as though what the East lacks in enthusiasm the West supplies, while the pecuniary ability for horticultural enterprises follows the *spirit* closely also.

We prize very highly the collection of essays which are interspersed here and there throughout the transactions. Perhaps no fruit cultivator could obtain a better insight into the principles and practice of his occupation, their difficulties, and how to overcome them, than by taking this volume and giving it careful study. The entire State is represented here, with the best of its horticultural talent, and the concentrated wisdom of such an assembly can not fail to have a lasting beneficial influence. The State may feel proud of its society, and the society of this volume. It is a credit indeed.

TWELFTH ANNUAL REPORT OF COMMISSIONERS OF THE CENTRAL PARK.

A LARGE space in this Report is devoted to statistics, as is customary, but there appear here and there sketches of scenery, photographic

views of most picturesque character, that are peculiarly pleasing. Up to January 1st, 1869, the expenditures upon the park have been *five and a half* millions of dollars, while the annual appropriations reach \$250,000. The number of visitors for 1868, on foot or in carriages, was 4,491,420—a number we are somewhat astonished at, yet proving completely the popularity of the Park as a pleasure resort.

OHIO STATE HORTICULTURAL SOCIETY. Second Annual Report. M. B. Bateham, Sec. Painesville, O.

GIVES reports as usual of matters of pomological and grape interest; reports of committees on new fruits, and grape exhibitions at Pittsburg, Canandaigua, Cincinnati, etc. The address of the President is as excellent as usual, while the report of J. Storrs on the apple orchards of Ohio is especially worth reading. We observe that the question of the Naomi raspberry is still unsettled, also that great praise is given to the Salem and Martha grapes.

FLORIDA. CLIMATE, SOIL, PRODUCTIONS, ETC.

THIS is a manual of 151 pages, issued by E. M. Cheney, Jacksonville, Fla., giving in as comprehensive a manner as possible practical information on all points desired by the intending emigrant. The description seems to be accurate, and as far as we have as yet seen, is the most candid as well as most complete pamphlet on the resources of Florida yet printed.

RESOURCES OF MISSOURI. By Sylvester Waterhouse, of St. Louis, Mo.

ALL such pamphlets, giving practical information to emigrants on the resources and capacities of our Western or Southern States, are to be warmly welcomed. The present pamphlet is devoted largely to the iron and railroad interests of the State, although containing some information on agriculture.

AIR TREATMENT OF WINE, ETC. By R. d'Heuruse, New-York.

MR. D'HEURUSE has given in the August number of *THE HORTICULTURIST* information concerning his discovery, which is more fully elaborated in his pamphlet before us. His method has been tried with great success in some of the largest vineyards in California, and we think it worthy of trial by our Eastern vineyardists. If it proves correct, (and the principle seems very plausible,) it will be hard to estimate the incalculable advantage of it to the entire country, not only hastening the formation of the wine, but making better wine, and guaranteeing it against any absolute loss.

New Journals.

THE Reconstructed Farmer, published at Taboro, N. C., by James R. Thigpen and John S. Daney, is very neatly printed, a handsome title-

page, and a good name, has talent and enterprise, and will do good.

THE Minnesota Monthly, published by D. A. Robertson, St. Paul, Minn., believes in making farm-life attractive; tells Minnesotians how to do things "better as good," what trees to grow, what crops to plant, and keeps out quack advertisements. It fills a useful niche in the agricultural literature of the North-West, and we bid this, as well as other new-comers, God speed.

THE Western Stock Journal. By J. H. Sanders & Co., Sigourney, Iowa, devoted entirely to stock, with a few columns for the apiary and poultry-yard, seems to be quite practical, and as subscribers seem to be delighted with it, its mission will be well and substantially appreciated.

THE Willamette Farmer, published by A. L. Stinson, Salem, Oregon, devoted to domestic news, with a spice of agricultural and family literature, is giving now a very valuable series of articles on the agricultural resources of the State, together with geographical descriptions and statistics.

THE Michigan Farmer, Detroit, Mich., published by Johnstone & Gibbons. A welcome addition to our exchange table, for its neatness, enterprise, and good purposes. Especially so, because its present editor was the *man of all men* who helped issue *THE HORTICULTURIST* to the world, and during its first three years set with his own hands the type for all the literary matter that appeared in its pages. Every one who did honorable duty then in such good service deserves honorable remembrance now.

THE Bee-keeper's Journal and Agricultural Repository, by H. A. King, Cleveland, O., monthly, devoted to bees, butter, bread, and hosts of other B's, and seems to be very prosperous, and lives up to its motto, "Up, up."

THE Rural Buckeye. Chillicothe, O. S. L. Leffingwell, Editor. Published semi-monthly, and devoted largely to horticultural subjects, seems to be edited with good taste, and we hope its future will permit it to indulge in better paper, type, and printing.

Catalogues, etc.

Catalogue of New and Choice Strawberries. E. J. Evans & Co., York, Pa.

Catalogue of Fruit and Ornamental Trees. E. F. Babcock, Summerfield, Ill.

Wholesale Catalogue. Fruit Trees. T. T. Southwick & Co., Dansville, N. Y.

Wholesale Catalogue. E. Moody & Son, Lockport, N. Y.

Fifteenth Annual Catalogue of Choice Verbenas. Dexter Snow, Chicopee, Mass.

Catalogue of Trees, Plants, and Shrubs. L. Menand, Albany, N. Y.

A large number left over will be noticed in our next issue.



Climbing Plants as Helps to Home Adornment.

COUNTRY life abounds in so many objects of beauty that there really seems no limit to the pleasure a genuine lover of nature may enjoy. In the hands of the skillful landscape gardener, every tree or shrub becomes a natural embellishment. Even the noble line of shade-trees becomes the most valuable of all decorations and treasures worthy of highest pride. Yet, after all, what delicate taste and suggestive beauty seem gathered up in the associations of *Climbing Vines*.

Helps to home adornment we have called them, and the fairy fingers who twine them around their parlor-windows, or along the piazza, or on the rustic trellises before the cottage-door, can tell you how well they appreciate their value in making home so pleasant.

The motion of the climbing vine as it sways in the breeze is suggestive of poetic associations. At one time, like an ivy, it clings with loving fondness to the decaying oak which supported it in its infancy; again it runs wildly over a rustic bower; then clings to some gnarly grape-vine; again dips its tender branchlets in the sparkling waters of the slowly-gliding streamlet; while the beautiful, flower like golden cups may lead our imagination to believe they are the drinking-vessels of the fairies of the woods; and then it dances away in the finest wreaths and natural festoons of mingled verdure and flowers.

Climbing Vines are not a Pleasure only, but a Necessity.

Wherever there is an unsightly fence or wall, there exists the opportunity to render it the most beautiful part of the garden. Our new built houses, with all their elaborate decorations and imposing designs, are still cheerless until mellowed and softened by the genial touch and presence of nature. The wood, brick, or stone stand out in angular outlines, bare and hard, and lack the one thing needful to heighten their effect. Let them be wreathed with climbing vines, and let their corners be hid under the delicate foliage or brilliant flowers of the vine, and architecture and nature combine in harmonious proportions to produce highest picturesque effect.

Our climbing vines, although hitherto attracting little attention, are worthy of extended notice as a valuable accessory to home embellishment, and we propose to describe a few of the most useful and popular.

The Bignonia.

First on the list we notice with special admiration the Scarlet Trumpet Creeper, (*Bignonia grandiflora*.) This magnificent plant, wherever sufficiently hardy to grow with vigor, is one of the most attractive of all creeping vines, attach ng itself firmly to walls, buildings of stone, brick, or wood, trunks of trees, hedges, or arbors; it throws out innumerable aerial rootlets, develops its large, handsome scarlet flowers in clusters, and forms a gorgeous sight

in late summer, producing a striking contrast with the rich-pointed foliage, and a splendid object when grown on the trellis. We have observed it in Delaware, growing on the sides or tops of the Osage orange hedges, throwing out its glossy green leaves, surmounted with its brilliant trumpet-shaped flower, extending for many yards, and eliciting expressions of admiration from the passers-by. Downing, commenting on its beauty, says:

"In the blossom of the 'grandiflora,' however, lies its peculiar beauty. These are produced, in great profusion and clusters, in July and August, so as to give the whole plant an exceedingly gay and lively appearance. They are not long and tubular, like those of the common trumpet flower, but somewhat cup-shaped. The color is beautifully varied, the outside being a rich, marked with bright clusters open their sion, so as to keep up for a long time; and with no climbing Chinese Wisteria, elegance or brilliancy den or pleasureing the season of we counted over three once, upon a plant in the same profuse dis- night or more. Any ed soil suits this m a d e moderately when planted against space twelve or in two or three seathy the attention of for climbers of a per- unsightly walls, or render garden build- ornamental by a rich bloom."

be found a little ten- of New-York, but protected during the layer of straw over some branches of them at the ap- This course followed will serve to strength-

wood gradually, after which it will thrive with only ordinary care. In the Middle and Southern States, where it takes on a robust habit it excels in showy splendor its brilliant efforts here, and fairly glows in midsummer with its thousands of rich orange-red blossoms, "like clusters of bright goblets." A remarkable specimen of it existed several years since in Baltimore. It covered a three-sided trellis, fifteen feet in height, and the owner one day, counting its flowers and buds, found it to contain fifty-four corymbs, each of which averaged ten flowers and twenty-seven buds; in all, upward of five hundred flowers, and fifteen hundred more buds just forming. Few or no climbing plants will bear such comparison with it in luxuriance and brilliant effect. The flowers are borne in clusters; and the buds, just like a half-opened rose-bud, are nearly as beautiful as the flower itself.

An additional effect is often gained by mingling the vine with that of the wisteria, planting them so that the two may twist and twine together. The contrast of foliole or flower is very pleasing; but, growing in its native habitats, along the road-fences or covering the hedges, it bursts suddenly upon the passing traveler with its living, fiery bloom, and is ever after remembered with expressions of delight.



pure, orange scarlet, streaks. These gay blossoms in succes- a brilliant appearance we are acquainted shrub, except the which at all vics in of effect, in the gar- ground, with this, dur- bloom. One season hundred in bloom at our neighborhood, and play continued a fort- dry, light, well drain- climber. It should be rich; and in such soil, a wall, it will cover a fourteen feet square sons. It is well wor- those who are looking manent kind to cover close fences, or to ings of any kind more canopy of foliage and

The bignonia will der in localities north can be very easily winter by tying a the shoots or laying evergreen against preach of winter. for two or three years en and harden the

In the Middle and Southern States, where it takes on a robust habit it excels in showy splendor its brilliant efforts here, and fairly glows in midsummer with its thousands of rich orange-red blossoms, "like clusters of bright goblets." A remarkable specimen of it existed several years since in Baltimore. It covered a three-sided trellis, fifteen feet in height, and the owner one day, counting its flowers and buds, found it to contain fifty-four corymbs, each of which averaged ten flowers and twenty-seven buds; in all, upward of five hundred flowers, and fifteen hundred more buds just forming. Few or no climbing plants will bear such comparison with it in luxuriance and brilliant effect. The flowers are borne in clusters; and the buds, just like a half-opened rose-bud, are nearly as beautiful as the flower itself.

The Knox Fruit-Farm.

AN EDITORIAL VISIT.

MR. KNOX'S name long since has become a household word throughout the country, and few towns but have heard of him and his Jucunda Strawberry.

His success in fruit culture has made his farm a constant source of admiration from never-ceasing throngs of visitors; but like the *general* of old, who "*came, and saw, and conquered,*" Mr. Knox's equally successful exploits in horticultural experience and enterprise, with yearly crusades into all parts of the land, dropping his plants or catalogues before every door, make him not a *general* merely, but a *generalissimo*, whose conquests have the rare merit of being won not by the sword of war, but the "*spade of peace.*"

The Knox fruit-farm is situated about two and a half miles from the centre of Pittsburg, south-west over the heights of Birmingham. As the road winds in and out over the points or indentations of the hills, gradually ascending until the top is reached, there is constantly presented a beautiful panorama of the busy city, with its hundreds of furnaces and factories, coining ore into metal, and metal into merchandise; a city rich in wealth and prosperity, and famous for the liberality and enterprise of its citizens.

The Knox fruit-farm has a front of perhaps fifteen hundred feet on the principal road, running back southward over the brow of a high hill, and then rapidly descends upon the other side, only to rise again, but more smoothly. Upon the slopes of these hills, facing north, south, east, and west, are laid out the great squares, rows, or blocks, which unite in forming a magnificent field of one hundred and sixty acres, teeming with trees, vines, and plants, growing either for fruit or for sale.

We had expected a rare sight, but had formed no idea of the magnificence and extent of the "*generalissimo's battle-ground.*" It reminds one of the famous vine-clad slopes of the Rhine, whose picturesque summits are crowned with the never-failing vine, while the air of romance and beauty lingers around.

Here the American spirit of "*utility*" crops out so largely that, while there is a suggestion of romantic beauty in the fortunate position of the vineyards, still every visitor forgets that in the natural curiosity to learn the elements that have conspired to produce so great a success. Of the entire farm of one hundred and sixty acres, thirty are devoted to grapes for bearing, ten to fifteen acres to strawberries, and the entire balance of the place to propagating purposes.

As we walk over the different parts of the farm, we can not fail to notice the admirable order and system which characterize the arrangement of all the fruits. Here is the Concord vineyard, like a solid phalanx: it fronts the observer, and its long stretching arms, running away out of our sight, glisten with bunches hanging thick and purple, luscious reminders of the glories of the harvest. There is his field of experimental grapes, of which many a story of wasted money might be told; there that bed of experimental strawberries, none of which approaches the immaculate Jucunda.

It is a significant fact that, although Mr. Knox has tried nearly every variety of merit of the different species of small fruits, yet he discards them all, sooner or later, save only a few popular favorites, *which succeed everywhere.*

The Concord grape, reproached so often by horticultural palates of high dignity and quality, as not the grape for America, we here, with Mr. Knox's vines before our eyes, throw in our plea in its behalf, and crown it "*lord of all.*"

Its matchless luxuriance, its almost unfailing certainty, its health of foliage and vigor of plant; its noble clusters, produced in remarkable profusion; its admirable adaptation to all parts of the country, entitle it to recognition as *the best grape now known for American cultivators.*

Upon Mr. Knox's place, it has never failed to give a crop; and Knox's Concord enjoys as much of a reputation in Philadelphia and Pittsburg markets as does the Jucunda in New-York.

Besides the Concord, very few other grapes are found worthy of preference. Nearly every desirable variety is grown, and with varying success. The Rogers's Hybrids mildew badly; likewise the Iona, Israella, and Eumelan. The latter is a weak grower with Mr.

Knox ; still, no definite opinion can yet be given of its value. The Iona is also very weak, yet has a tendency to great fruitfulness.

The *Israella*, for this latitude, has not given good satisfaction, but will be found better suited to a more southern cultivation.

The *Hartford Prolific*, *Ives*, and *Creveling* are counted among the most reliable ; always sure of a large crop. and being earlier, are more profitable.

The two seedlings of the Concord, which have attracted so much attention, the *Martha* and the *Black Hawk*, are found here under most favorable circumstances.

The *Martha* is in every respect a handsome vine, healthy, vigorous, productive, bearing fine bunches of large, clear white grapes, with a fine flavor, much more delicate and sprightly than the Concord. As it appears in Mr. Knox's grounds, we would esteem it superior in value to anything he has yet grown. Still, we can not judge yet of its success in other localities. We hope for the best, for it appears to be worthy of a wide dissemination.

The *Black Hawk* possesses nearly the same characteristics as the Concord, but is a much ranker variety in growth ; leaves of a very deep green, and fruit a week earlier ; quality somewhat sweeter.

Grape Trellises.

These are a feature of interest. The vines are planted in rows eight feet apart, and plants six feet in the row, trained by arms and upright laterals to the slats. Locust posts two feet long are put out at appropriate distances along the rows, and driven into the ground ; to the top of these hemlock scantlings are nailed, reaching up seven feet, and at the top and bottom horizontal bars are nailed, the entire length of the row. Ordinary laths are then nailed vertically along the bars, at distances of nine inches, and the vines trained perpendicularly along the slats.

Such a trellis as this costs about \$400 per acre, but is permanent, durable, simple, and easily put up ; seems to correspond best with the mode of culture and the habits of the vine, and has been found far more preferable than wires, which will sag, and are difficult to train upon.

Between the rows of grapes are grown either a double row of strawberries or a row of raspberries ; the coolness of the soil and the partial shade has been found very beneficial for their growth, and during the first years of the vineyard this crop is grown ; but after the fourth year, when the vines are in full bearing, no other crop is permitted upon the same space, and the ground is given entirely to the grapes ; one crop only is enough to take from the ground at the same time.

Strawberries.

The great feature of the farm is the *Jucunda Strawberry*. Our visit was not made in fruiting season, but just as grapes were ripening, and hence we could not judge of the *Jucunda* as in fruit. We are observers, however, of their growth and cultivation.

Mr. Knox has tried several methods of cultivation to arrive at the best plan for greatest success. At first the plants were put out in rows two and a half feet wide, and eighteen inches in the row. This allowed an abundance of room, which was found afterward too much, and a second plan was adopted. This was in beds ; the beds consisted of rows eighteen inches apart, and plants one foot in the row ; then an alley three feet wide, after every third row. This increased the productiveness per acre, but made the cultivation more difficult.

Finally a *third* method was tried, and with such success that it is now the standard rule. This consists simply in planting the rows two feet apart, and plants one foot in the row. The soil is of a peculiar character, containing a greater proportion of shale or clay than loam, and yet well drained, providing just the most favorable conditions for the successful growth of the vines and plants.

We are somewhat surprised to hear that very little manure is used, except in first preparation of the ground, and little or no application yearly, as long as the plantation lasts. And yet the production is marvelous. The produce per acre has as yet never been accurately measured ; but the opinion of Mr. Knox is, that good stools will average one quart

each. During the last fruiting season, the berries seemed to hang and crowd each other upon the vines, all large and of splendid appearance; some of so monstrous a size that eight would fill a pint, while ten or twelve to the pint were very frequent.

The reputation of the Jucunda has become so great that he has no difficulty in disposing of immense quantities at any price he may choose. Hitherto large quantities have been sent yearly to Philadelphia and New-York, commanding uniformly high prices—never less than forty cents per quart, and from that to eighty cents.

The past season proving too wet and unfavorable for shipping, and the home demand being so great, nearly all the entire crop was sold in the markets of Pittsburg, at prices of forty to fifty cents per quart; while very choice fruit, to fill distant orders, was put up in small crates of four quart boxes each, and large quantities sold for one dollar per quart. As Mr. Knox himself remarked to us, customers seemed willing to pay any price to get handsome Jucundas to take home and *show* to friends and neighbors, as well as to eat.

The receipts from home sales of strawberries have reached as high as \$1000 per day.

The Fillmore is second only to the Jucunda in desirability, proving nearly equal in size and productiveness, but of a better flavor. Shape is fine, plant vigorous, dark color, and very firm for market. Is a pistillate variety.

Of all the remaining hundred or more varieties which he has experimented with, the Wilson, Triomphe de Gand, and Agriculturist are the best, and have done uniformly well. Burr's New Pine is early and bears well; while another variety, *Reed's Late*, is also thought well of; but all the rest are but dwarfs to the great Jucunda.

Mr. Knox's system of cultivation is no secret. We are surprised to see how simple it is, and yet how marvelous the results. The Jucunda, even on Mr. Knox's place, is not a rank grower. It is a clean, upright plant, leaves only of medium length, and luxuriance, and not as strong as either the Agriculturist or Wilson Albany; but it forms a very compact stool, and seems to concentrate all its vital forces in the production of fruit; and it is often a mystery among visitors how the plants could produce and mature so many and so uniformly large berries upon the stools, and average so well year after year and acre after acre.

It is customary with beginners putting out their strawberry-beds in the spring to expect the next year but a moderate crop, while the second crop is considered by far the best. With such varieties as the Wilson and Agriculturist, the beds need renewing every second or third year; but with Mr. Knox, a Jucunda stool lasts five or six years, and its first crop and last crop are equally as good as the intermediate ones. The production varies very little year after year.

Mr. Knox keeps his ground well cultivated. After the plants have been set in the spring, the rows are cultivated and weeded by hand, the hoe being the only instrument used, no horse cultivator being allowed. All runners are kept nipped off close to the plants, and none suffered to make growth. This hand cultivation continues until fall, when, on the approach of winter, the entire bed is covered with a heavy mulch of rye straw. This remains until spring, when it is brushed aside from the tops of the plants, yet allowed to remain close around the crown and cover the ground from row to row. Here it remains until the next fall, keeping the ground cool during fruiting season, and also sustaining the plants against the effects of the hot sun.

If there is any secret in Mr. Knox's system of cultivation, we can not see it. Our view is, that his success comes simply from careful culture, *thorough hand work, cutting off all runners, keeping in hills, and mulching.*

The mulch is as much an element of success as any other part of the labor. Having used it ourselves, we know its value, and would omit any other part of culture rather than this before giving it up. The mulch is as much needed in summer as in winter; and in times of protracted drought is almost the only salvation of the plants.

The Jucunda in other sections of the country seems to make a varying record. As a rule, it does not seem adapted to light land; and the causes of failure may be attributed either to poor land or careless culture. If cultivators will choose heavy land, well drained, and grow in hills well mulched, we think the Jucunda will be uniformly successful. As it is, this year it has grown in popularity, and is winning golden opinions from those who know how to grow it aright.

Raspberries.

The *Clarke* raspberry maintains on Mr. Knox's place every admirable quality claimed for it by other growers. It is healthy, vigorous, very fruitful, and fruit of fine quality. It is preëminently a superior family fruit.

The *Philadelphia* is still the raspberry for the million—very hardy, enormously productive, and fruit of reasonable quality. Is exceedingly vigorous, and never known to fail in producing a crop.

The *Hornet* is a great favorite with Mr. Knox; he experiences no difficulty in its culture. It is a good, strong grower, very productive, fruit of largest size and fine flavor. He has had the berries so large that people did not know what the fruit was. It requires more care and attention than other more hardy varieties, and it is always well to lay it down during the winter; but it will well repay for all such painstaking culture.

The *Pilate* is of a better flavor than the *Hornet*, but not as large. Is very early, productive, and quite firm.

The *Naomi*.—Mr. Knox has taken considerable pains to obtain a stock of the true *Naomi*; and has several thousand plants now growing in a field, testing them both for fruiting purposes and for comparison with the *Franconia*. The growth is very rank and healthy; and, as far as he can judge, is much hardier and stronger than the *Franconia*. He has great faith in it; still, will give it a fair test, and if precisely the same as the *Franconia*, he will be honest enough to sell it as such, and not for another variety.

Knevets Giant is quite good, but not as successful as the *Hornet*.

Currants.

These are a profitable crop with him for market, bringing in the Pittsburg market a price of twenty to twenty-five cents per quart; while the demand for plants is very large. Nurserymen generally now admit the currant trade is large and profitable.

The principal varieties grown are the *Cherry*, *Versailles*, *Fertile de Angers*, *White Grape*, and *Victoria*. They are all excellent. The *Cherry* and *Versailles*, as usually grown, are so much alike as to be substituted and sold for each other; so much so, that horticulturists have asserted there was no *Versailles* currant. Mr. Knox says there is a marked difference with him, the *Versailles* not ripening as soon as the other. Mr. Andrew S. Fuller, who has over one hundred varieties of currants now growing, has gathered *Versailles* from very many different quarters, and found them all precisely the same as the *Cherry*, with the exception of one lot from *André Leroy*, France, which is quite distinct and undoubtedly true, not being as vigorous and much lighter in leaf—his plants not yet fruiting so as to distinguish in matter of fruit or quality.

As we leave Mr. Knox's place, on our journey home, we can not help contrasting his place with many other fruit-farms we have witnessed this year. He has taken care of his grounds; they none at all. His strawberries have been well grown and well sold; theirs poorly grown and sold at a loss. He is enthusiastic and hopeful; they dejected and gloomy.

Likewise we contrast his method of business with other nurseries we know.

He aims to have good stock, and send out nothing poor; they aim to grow large quantities and sell at low prices. He sends his out packed in splendid order, and they arrive in fine condition; they pack in boxes and barrels, jamming all down in one undistinguishable mass, which ferments and rots before it reaches its destination.

They recommend any thing they have to sell, without qualifications; he recommends nothing which is not a genuine success. They aim to sell but for the passing season; he aims to sell for years ahead. He has the confidence of his correspondents; they have not.

Can any one imagine where these two courses, so widely different, will result? With such honorable principles of business and liberality to purchasers as his, is it at all strange that the harvest of his toil is rich beyond description? We have every reason to rejoice in it; for every one in the great band of American horticulturists welcomes with pleasure such instances of individual success.

The Ailanthus.

I HAVE been much surprised, in looking over numerous catalogues of ornamental trees, and in reading the frequent tirades against the *Fetid Ailanthus*, to observe that no mention is made of its beautiful congener, the *female Ailanthus*, which abounds in this immediate vicinity.

We have growing here a tree so nearly resembling the common ailanthus that it is difficult to distinguish them at any stage of growth, except during the blooming season. But in June, when the male tree exhibits its offensive blossoms, (which perish in about three weeks,) the female also puts forth a flower, (at first scarcely distinguishable from the other,) which develops into superb clusters of seed-pods. These clusters are from ten to fifteen inches in length, and of equal breadth. They are at first of a delicate green, (resembling hops.) and in time are tinged with a pink blush, then turn to a lively red, and later in the season to a rich maroon. They hang on the tree until frost, are entirely inodorous, and are worn by the ladies in their hair, or used for dressing the flower-vases.

The leaf-stems of this tree are longer, and its habit of growth more graceful, than the common ailanthus; the limbs in the larger specimens having a tendency to become pendulous. It does not sucker, but scatters its seedlings as thick as weeds, which are as easily eradicated.

In short, this tree possesses all the advantages of easy cultivation and rapid growth which made the ailanthus once popular, far surpassing it in oriental grace and richness, and is at the same time entirely free from its troublesome and offensive qualities.

We regard it here as the most beautiful and delightful of all our shade and ornamental trees.

In view of the close resemblance between the two trees, especially in their early growth, I can not but believe that the common ailanthus was introduced and propagated by mistake, and that those who brought it to this country intended to have introduced the tree which I have described. I inclose a specimen of the fruitage in its present condition.

DAVID H. STROTHER,
Berkeley Springs, West-Virginia.

Removing Runners.

The Easiest Way of Cultivating Strawberries.

FEW will deny that larger crops of strawberries can be raised by clipping the runners than by allowing them to run and form plants; but the objection generally offered is, that it is too much work to remove the runners.

Were this objection valid—were it true that it requires more labor to cultivate an acre of strawberries, removing runners, than it does allowing them to run, then it would be a pertinent question, Would it not be politic to expend the labor necessary to cultivate an acre on the broad-cast system, on less land on the hill system, producing the same amount of fruit?

But, after years of experience, I have come to the conclusion that strawberries can be cultivated with less labor if the runners be removed. I know that this fact is to be established by practical experiment, rather than proved by argument, yet I offer a few considerations showing the plausibility of the proposition. I find it necessary to clean out a plantation of strawberries about five times, on an average, before getting a crop of fruit. I generally plant my rows far enough apart to allow the passage of a cultivator two feet nine inches or three feet. The first cultivation would be about the same under both systems. We would cultivate between the rows, and hoe between the plants—hand-weeding near the plants. The runners would not be started enough to require clipping or to interfere with hoeing.

After the first hoeing, the runners would generally need clipping about twice to every hoeing; so that in hill-culture we should have to clip the runners twice, and cultivate and hoe once for every time that we should be obliged to cultivate and hoe once in the matted system. Now, where is the gain? We gain, in the less labor required to clean out the rows in the former system than in the latter, more than the labor of clipping the runners twice.

It does not take a quick motioned boy or girl long to clip the runners on an acre of straw-

berries with a knife; and then we can cultivate close to the hills, and with a hoe soon cut up the weeds between the hills.

But when the runners have spread in every direction from the hills, and taken root, the space that the cultivator can clean is narrowed, and it becomes a tedious operation to hoe between the young plants. In fact, many of the weeds must be pulled by hand. Here the question might be asked by the unreflecting, Why be so careful to avoid tearing up the young plants with the hoe and cultivator? Why not tear them up, and cut off the runners with the hoe, thereby saving the labor of clipping the runners with a knife or other implement? The answer is, the runners must be removed before they form plants, or they will so exhaust the parent plant as to prevent its *stooling*, and our yield of fruit would be small indeed.

ROCHESTER, N. Y.

P. C. REYNOLDS.



Duchesse D'Angouleme Pear, Ten Years Old.

Pear Culture for Profit.

AN observing horticulturist can not fail to notice that of all standard fruits the pear is now becoming the most popular, and its cultivation is attended with greatest interest. Beginners, then, in pear culture for profit, need a little more advice than fruit-books are accustomed to give us as to the simplest, most practical method of treatment, together with reliable information as to choice of varieties, and how to market them properly.

This is all supplied in Mr. Quinn's new volume before us, which details in a plain, practical manner the essentials of success in this branch of fruit culture. The work does not discuss the merits of an extended list of varieties, but only of those that have proved most profitable and popular in the market. It would have added to the interest of the volume to have devoted a chapter to miscellaneous varieties, inasmuch as pears, like other fruits, are capricious in their successes on varying soils and in different climates. The Buffum pear-tree, one of the most beautiful ever grown, is not noticed; and also the Louise Bonne de Jersey. The public know these are too valuable to be overlooked; and we think that, although Mr. Quinn's book is still admirable in practical suggestions, this question of varieties needs another chapter to complete the interest.

We find many items worthy of notice, and quote a few.

Mulch.

I find that it is a good plan to mulch the ground around the body of the pear-tree, late in the fall, with salt hay, straw, or other litter. It not only keeps the frost in later, retarding the buds from swelling before the weather is settled, but also prevents the alternate freezing and thawing that prove so fatal to young trees in many sections of the West.

Early Ripening.

There is no advantage in ripening pears early—in fact, there is a disadvantage; for if the Bartlett and Belle Lucrative are on a southern exposure, they are ready for market at a time when peaches and blackberries are in abundance; and, as a matter of course, they have to be sold at a much lower price than when peaches and berries are disappearing.

This is also true of the Duchesse d'Angoulême. In the early part of October, pears of this variety frequently sell from \$8 to \$12 per barr-l; while in November prices advance, and it is not unusual to get from \$20 to \$30 per barrel for the same quality of fruit.

Distances for Planting.

Standards pruned to make pyramids may be planted as close as twelve feet by sixteen. With a careful and judicious system of pruning, this will be found ample room for standards. We have standard trees, set out thirteen years ago, on well prepared soil, at these distances, and I am convinced they have plenty of room for all purposes.

Dwarfs require less room than standards. Our first plantings were set eight feet by twelve; but we found that too great a distance between the rows, and at each successive planting we reduced it, until we got down to ten feet by ten, which, on strong ground, is as close together as they ought to be planted. Every tenth space is left fifteen feet wide. This is necessary in an orchard, to permit a cart to pass between the rows in manuring the trees and gathering the fruit.

Age of Trees for Planting.

For many years during our early experience in pear culture, we planted trees in the orchard not less than two years old, believing that younger trees would not do as well. On this point we have changed both opinion and practice; and we now select well grown, one-year-old stock in preference to all others, for the following reasons: Trees of this age cost about one half as much. When planted in the orchard, they will become more uniform in shape and size, with less labor. The purchaser will get more roots in comparison with the tops; and the freight will not average more than one quar er—for one hundred one year old will not occupy more space than twenty five or thirty two years old.

Our space prevents further extracts; but we commend it to the public as worthy of general perusal.

Lilium Lancifolium Rubrum.



Plant Hardy Bulbs Now.

BY WALTER ELDER, LANDSCAPE GARDENER, PHILADELPHIA.

THE culture of bulbs is one of the most fascinating and ancient branches of floriculture; and a sort of veneration shines over it by the frequent allusions in Holy Writ, from which we are led to believe that all the various genera of bulbs were classed into one family, and called *lilies*. Solomon was so much enamored by the beauty and fragrance of their blooms that in fondness of his church he says, "My beloved is gone into his garden to gather lilies; my beloved feedeth among the lilies." And our Saviour tells us to "consider the lilies, how they grow; they toil not, neither do they spin; yet even Solomon in all his glory was not arrayed like one of these."

The power of Omnipotence is visible in the culture of bulbs. *Snowdrop*, though the most fragile and dwarfish, is the earliest harbinger of spring, and braves the storms of February in performing its office. *Crocus* follows with colors yellow, purple, and white,

and entices the bees from their hives, making a combination of beauty and music early in March. *Crown Imperial* and *Hyacinth* simultaneously come next, the former with crowns of yellow, orange, and gold. Some have their stems and leaves striped with yellow and green, and orange and green. *Hyacinth* of many colors, all fragrant and beautiful. *Narcissus* and *Tulip* follow together. *Narcissus* largely shows yellow; its whites are sweetly perfumed. The gaudy tulip surpasses all other genera with its diversity and matchless markings of its bulbs, which last until the rose shows its splendor. Then the white and orange *Lilies* take the field. The *Martagons* and other lilies follow in their times. *Ornithogalum* and *Ranunculus* have many species, all beautiful and sweetly perfumed. *Tuberose* comes on last.

We can remember when there were two vacancies in the bloom of bulbs; but now the Japan Lily, *Gladiolus*, and *Iris* fill up the gap in summer, and *Tigridia* fills up that of autumn. So we have an unbroken chain of bulb-blooms, from snowdrops in February to tuberose in November. The latest wonder and glory among bulbs is the great golden lily, called *Lilium Auratum*. The blooms are eight inches in diameter; the ground white, with purple spots, and stripes and edgings of gold.

The bulbs of *Gladiolus*, *Iris*, *Tigridia*, and *Tuberose* are planted in spring and dug up in fall. Mr. Peter Henderson, of New-York, is correct in stating that these tender bulbs suffer by being kept too long in a cold temperature during winter. Our experience has taught us that fact. October is the chosen month to plant all the hardy bulbs, as the soil under the surface is then for two months warmer than the atmosphere. The bulbs make numerous roots before winter sets in, which gives them greater strength of growth and beauty of bloom. They flourish upon almost every kind of soil made rich with manures. Different soils need different kinds of manures to fertilize them; so the common culture and care given to other crops will insure success in the culture of bulbs. Yet that old foggy rant about *cow-dung* is still published in the catalogues, although it became obsolete fifty years ago. It was only suited for the sandy soils of Holland, which was once a bed of the sea.

We have received the annual catalogues of Louis Van Houtte, of Ghent, in Belgium, and of Krelage & Son, of Haarlem, in Holland, from which we learn that the past summer has been most favorable for the ripening of the bulbs; so there will be no loss by rot in transporting them to America. And Henry A. Dreer, of Philadelphia, from his late tour among nurserymen in Europe, certifies the conclusions that the bulbs are well ripened; and many new, superior varieties have been added to the lists.

Star Papers.

Hill Culture of Strawberries.

WHAT is the true method of cultivating strawberries? Shall we grow them in beds, or rows, or in hills; and how far apart shall we plant our hills?

I have thought very frequently that fruit growers as a class have neglected proper experiments in arriving at a settled judgment on this point.

I meet one fruit man who says that he can make more money on the bed system, permitting the runners to go unclipped, and the ground cultivated with a cultivator at only occasional intervals. It is true, he says he gets but ten cents per quart, while others get fifteen or more; but he claims that as less labor and expense attend his crop, there is still as much profit as in a higher-priced crop attended with greater cost of cultivation.

I call his mode of culture slovenly, and say that he does not know how to grow strawberries; but he knows better, and says that his land pays him better than corn or grain, and he will keep at it until he fails.

Another grows his plants in rows, and seems to be satisfied with good crops every other year and moderate ones between. But it is a question with me whether the crowding of the plants so closely in the row affects their bearing qualities; although it is a great improvement on the other, still it is far from perfect.

A third method is to grow entirely in hills. I have never yet known a failure of a grower who adhered rigidly to the hill culture of strawberries, and, as a rule, I believe that they have all found it to be the easiest and surest way of getting a big crop and fine berries, year after year.

But how far apart shall we plant our hills? Some put out their rows three feet, and plants two feet distant in the row. Others, with but a small space of ground and bent on great economy, plant two feet by one. This necessitates hard work; and with strong growing varieties, the plants will touch each other in the row, and eventually it will be the repetition of the row system over again.

My method would be to plant in rows two to two and a half feet apart, with plants eighteen inches in the row. Manure heavily with barnyard manure, and stimulate with bone-meal. Cultivate the row with a horse cultivator, and hoe by hand between the hills. I am confident that the plants under such good treatment will produce a greater amount of fruit than by any other system possible.

While it may not be possible for every plant to average a quart to every bill, yet the produce will be so near to it that the grower will be astonished. I firmly believe that the hill culture of strawberries has more to do with success in the business than all other points put together. Can any one prove to the contrary?

Late vs. Early Fruits.

Do we need any more early varieties of fruit? Have we not now an abundance sufficient for all ordinary purposes? Thus far no strawberry earlier than the Wilson has been found profitable, and since strawberry culture is extending over so great a latitude, we can have as early berries of the Wilson as we desire, almost at any time.

Transportation is now so easy and quick that consumers can buy fresh fruit almost at any season of the year, and the necessity or rage that has hitherto existed for early fruits is now lost sight of in the actual abundance that meets the eye of the consumer.

The Editor of *THE HORTICULTURIST* is right in his statement that "fruit culture, to be profitable, requires *steady* supplies of fruit;" but I am one of those thinking people who believe in doing things when others are not doing them, and I can have the field without much competition. While every one else is rushing his early fruit into the market, I will look on and see the glut; soon the supply ceases, and prices advance; then I bring my late fruits in, retarded by heavy mulching, or of naturally late varieties, and I am sure of steady prices. We need, in strawberry culture, a succession of varieties, ripening one after the other, like peaches. First come the Hale's Early, then the Early York, then Crawford's Early, then Old Mixon, and so on down, keeping up a succession for six weeks or more.

A careful observer of the times will hereafter notice that there will be more attention paid to *late* fruits than early ones, and, in addition, the scale of quality will gradually ascend.

Consumers, having now an abundance of fruit, will be more discriminating in their taste and choose fruit of choicer character. Late fruits are of uniformly better flavor, color, and size than early ones. Hence, I say, grow them wherever a good market can be commanded.

Blackberries.

There is a limit to the profitable cultivation of blackberries. It is a fruit not as largely consumed as strawberries, and generally coming into market just as other standard fruits begin to make their appearance, such as early peaches and early pears, it is very often quickly closed off at very low prices.

The blackberry crop is only profitable when there are no peaches, and this occurs only every other year. Does it pay, then, to go into blackberries *largely*, knowing that only one crop in two years can be counted very profitable?

Blackberries this year have been so abundant as hardly to pay expenses to market, and thousands of bushels have been left to rot or dry on the vines, there being no inducement to gather them.

Cultivated berries are always worth double the value of wild ones; but when we see such instances as we have seen this year, of one fruit suffering so much by the appearance of

another and more popular fruit, it is sufficient to remind us not to overdo even the blackberry business, and confirms my previous opinion, that there is a limit even to blackberry culture.

The blackberry is one of the easiest fruits grown. It needs no replanting, always remains growing from the same hill, renewing itself year after year, and, both in capital and culture, the least expensive of any thing now grown. Hence the inducements to plant it largely are very great.

Taking into consideration all the capital, expenses, and risks of uncertain crops and seasons, fruit culture seems to be settling itself down as an occupation but little more profitable than ordinary farming, and with the majority of careless growers it has proved to be so; and yet while I am always glad to encourage fruit-raising and fruit-eating, still I am anxious to have no one rush blindly into it, and become disappointed.

It would be well for every beginner to make his estimates of income very low and his schedule of expenses very high, for at least three years, and he will find that his calculations are very lucky if he begins to gain head at the end of that time. The same labor, care, skill, and capital that are necessary to conduct a ten-acre fruit-farm will conduct a fifty or one hundred acre farm of grain, vegetables, grass, or stock, and yield a more certain profit year after year.

To those who are planting out blackberries, I would simply say that a good local market is better than a city one. Of all varieties the Wilson is the earliest and most profitable. The Kittatinny is best flavored and most productive, very hardy, and most suitable for family culture.

The Lawton is still popular in the markets, selling for as much as either of the others, yet can not last long while other varieties of greater excellence are gradually taking its place.

The Dorchester is as early as the Wilson, but much smaller. A better flavor; but size is now of greater importance than flavor, and the Wilson must be crowned king of the blackberries.

For a good steady supply of blackberries, I would say, plant one half Wilson and one half Kittatinny. This will supply all needs for market, both early and late.

RICHARD ROLLIFFE.

What is the Black Knot on Plum and Cherry-Trees?

BY E. TAINTOR, HARFORD, N. Y.

ABOUT twenty-five years ago, my cherry-trees, as was generally the case in the vicinity, were killed by the black knot. I observed grubs in the knots while they were in the green state, in the months of June and July, and supposed that the grubs caused the knots. I then procured another kind of trees, which had not then been attacked by knots, and which were supposed to be proof against them. For twenty years or more, no knots appeared on them; but in June, 1865, while building a garden fence, some of the trees being in the way, and finding many knots on them, and knowing the fate of my trees twenty-five or more years before, I resolved to cut them down. This was the first year of their reappearance. I opened several of the knots, and found grubs in them about three eighths of an inch in length. The fruit at this time was about two thirds grown. I supposed that there was no doubt that the knots were caused by insects; but afterward saw, in reports of the Farmer's Club, New-York, positive assertions, that the knots were not caused by insects, and concluded to make a more thorough examination next year.

Accordingly, the next year, May, 1866, seeing the knots were making their appearance, I commenced examination, the last of May, soon after the blossoms had fallen off. The knots were then in a green state, and not half grown; and, to my surprise, I could find no grubs in them, nor any thing that I thought would even produce a grub.

In a week I examined again. Did not at first find any grubs; but, on a closer examination found small, dark, irregular lines extending from the outside toward the central portion of the knot; examined very carefully, cutting off little by little with a sharp knife.

The knot at that time was in a cheesy state, and cut easily. I found at the inner end of these dark lines a little grub, not more than the thirty-second part of an inch in length, nor larger than No. 50 spool sewing-thread. I had no trouble after this in finding grubs.

In another week they were from a sixteenth to an eighth of an inch in length, and of corresponding size, and had penetrated further toward the centre of the knot. In 1867, I determined to convince myself thoroughly, and prove it to others. I commenced examination as soon as the leaves started, the season being about two weeks later than usual, and perhaps two weeks later than at New-York City. Did not discover any knots far enough advanced to crack open until May 30th; then I examined every day for thirty days. The knots commence their growth with the circulation of the sap in the spring, so as to produce the growth of new wood, and can be readily discovered as soon as the blossoms begin to make their appearance, and before they are in full bloom.

The knots are generally on twigs of the last year's growth, and can readily be discovered before they have progressed far enough to cause the outer bark of the twig to crack open, which generally takes place while the blossoms are on the trees.

The twig commences swelling for a distance of from three quarters to three and a half inches up and down its length, and in the course of a few days causes the outer bark of the twig to burst open from the internal pressure of the growing mass.

Upon examination by cutting, it will be found that the old wood of the twig has turned dark colored, or has dark streaks running up and down it for the space of one third the length of the now rapidly growing knot.

When further advanced the wood of the knot will cleave off from the old wood of the twig, forming a cavity which afterward becomes the habitation of the grubs.

I supposed at first that, as this spot appeared to be the centre of the difficulty, and the place from which the knot appeared to develop itself, if they were caused by insects I should here find the ova or egg which formed the grub; but in this I was mistaken.

After about two weeks from the first appearance of the swellings which form the knots, and a week or ten days after they are so far advanced as to crack open, the ova or egg of the insect may be discovered by careful examination.

The first that I discovered this year was on June 10th. At that time I found but two in examining perhaps twenty knots. Perhaps this was owing to my want of skill or experience in the business.

When the swelling first bursts open, the pulpy, woody substance, of which the young knot is composed, is of a light green color, but turns dark with age, until it becomes nearly black; is rough and irregular in form; and has several little indentations on its surface, which have something of the appearance of having been bitten in by some small insect. In these little indentations or cavities the eggs are deposited, only one in a place, and from one to about half a dozen—generally three or four—in a knot. I have never been able to find but seven in any knot, and that only in one instance.

The eggs are sometimes in sight, but not often, being generally imbedded in the woody substance, a little on one side of the indentations or cavities above spoken of, and but a very short distance from the outside of the knot, and in such a manner as to make one think they have worked themselves in since they were deposited.

These eggs are very small, and not easily discovered; therefore one must look sharp, and be careful, or he will not find them. By taking a sharp knife, and cutting off, little by little, from these indentations, if you have good luck you will find a little egg, about as large round the small way as a period-mark, and around the other way perhaps a third larger.

I did not succeed in detecting the insect that laid the eggs, though I examined the knots morning, noon, and night. I could not discover any eggs in the knots until they were about as thick as a man's little finger.

In about a week or ten days the eggs commence hatching; and at first the grubs are very small, and more difficult to discover than were the eggs; but they have now fairly commenced in life, and set up housekeeping for themselves, the woody substance of the knot furnishing both food and shelter.

The grub makes its way directly to the cavity in the centre of the knot, and by the time it arrives there is perhaps three eighths of an inch in length.

Subsequent examinations convinced me that the grubs perfect their growth and leave

the knots by eating through the outside and falling to the ground soon after the time the fruit naturally ripens, where they remain, and are transformed into insects, and come forth in the spring to renew their depredations.

I think the knots are commenced by a bite or sting of an insect, which poisons the sap, arrests it in its flow to form the wood, leaves, and fruit; and this poisoned sap forms the knot, which becomes the breeding-place and food for the succeeding generation. *The only preventive is the judicious use of the pruning-knife.*

Autumn Leaves.

BY ANNIE G. HALE.

FOREIGNERS are deeply impressed with the autumnal splendor of our American forests. This gorgeous coloring of the ripened foliage, which is much more brilliant with us than in other countries, sets the deciduous trees in vivid contrast with the sombre-hued firs and pines, and makes of the most ordinary landscape a charming picture. To the rapt eye of the beholder every mountain is a celestial city, whose palace-walls are of jasper and porphyry, and the towers and battlements thereof of solid gold; while a victorious host—their oriflams flaunting in the breeze, their armor flashing in the sunshine—seems marshaled on every plain, and bivouacking along all the valleys. So glorious yet so transient, even as the pageant of a dream; for after a few fair days the denuded trees—like bleaching skeletons, bald and bare, or grim ghosts of departed grandeur—toss frantically their stiff, stark limbs, from which the brightly-tinted leaves have fallen, and are scattered to the four winds; or, ruthlessly torn and trampled under foot, are fast returning to their original dust.

This change from the cool greenness of spring and summer to the warm scarlet and crimson and purple and gold, which the trees and shrubs assume, is not caused by, nor is it dependent upon, the frost, as was once popularly believed. It is but the perfection, and consequent enthusiasm, of the foliage, to which each tree, “after its kind,” has slowly and surely tended; gradually developing itself through the early and later rains, drawing strength and symmetry from many a rough breeze, as well as from the gentle dews and benignant sunshine; and even in early August, branches—sometimes whole trees—may be seen which, under circumstances favorable to a rapid maturity, have acquired those gorgeous hues premonitory of decay.

It is a law of nature that a purpose accomplished, an end attained, the instruments employed and the means used shall be transferred to other hands, while the toilers cease from labor and “their works do follow them.” So all leaves have their time to fall. Even the most persistent evergreens, that bide the frosts and storms of winter, pass through their appointed periods, and then cast their foliage, which through decay is resolved to the elements, and then, as with all created matter, started again upon a new phase of existence. “There is no death; what seems so is transition.” But a portion of this splendor, which in autumn is lavishly scattered abroad, we may rescue awhile from decay, and, brightening with it our indoor life, fill the dark days of winter with light and beauty.

Since an observant American woman has taught the Parisian belles how becoming our autumn leaves are to dark-haired ladies, and thus created a demand for this foliage as a personal decoration, its wonderfully varied tintings have been more generally noticed and admired; and many attempts are made to retain this beauty, which, when properly preserved and managed, gives elegance to the humblest apartment.

Though a few trees may ripen their leaves in August, it is not till the middle or last of September that we can obtain them in variety; while even as late as November we must wait for some species. Then, whether we pick them from the ground, or cut twigs and branches from the trees, only the most perfect in form, and the clearest in their hues, and the most nicely shaded should be selected, being careful that each leaf has its stem uninjured.

As soon as possible after gathering them the leaves must be pressed. If they begin to

wilt or shrivel before you are ready to press them, put them in water, and keep them there till they revive. See that no soil, no foreign substance of any kind, is on either side, and then with a warm—not hot—flat-iron press and iron each leaf on its upper surface till it is perfectly dry; spreading it for this purpose on several layers of paper, or on an ordinary ironing-board, just as if it were cotton cloth. This over, oil each leaf on the same side on which it was ironed with linseed, olive, or lard oil, using a small camel's-hair brush, or a bit of cotton batting tied to a stick; and then place them on dishes in the sunshine to dry. When dry, reject all those that have a semi transparent or oily appearance; to prevent this, get the thickest leaves you can for your collection, and do not oil them too generously nor with a rough brush.

If you wish to arrange the leaves in boughs, or sprays, or long garlands, procure a few knots of brown worsted, and a quantity of fine wire; old bonnet-wire cleared of its covering, and the wire from the heading of old brooms, are of the right size, and very convenient to use. When the oiled leaves are dry, assort the different kinds according to their species; that is, place the rock or sugar-maples together, then the red or swamp-maples, the English elms, the American elms, the white-oak, the black-oak, and so on; because, though several species are allowable in a garland, it would be unnatural to mingle them in sprays or boughs. The only proper way, however, of bringing them together is to bind the various sprays into a large bouquet; thus the contrasting forms and hues have a good effect.

Cut the wire into pieces of different lengths. You will need a great many three and four inches long, several a foot long, and a few two feet or more, according to the length of the branch or the garland you wish to make. Take the smallest leaves for the tips of the sprays and branches, and follow these with others of larger size, proceeding regularly till you have the largest leaves at the base of the branch; keeping an eye, at the same time, to the agreeable union of varying shades, and studying the marking and blotching of each leaf, so that it shall have no glaring contrast in its nearest fellows; and thus, with the greatest variety in the group, the whole are blended harmoniously and pleasantly.

Begin your work by attaching all but the very smallest leaves to the short wires, placing the wire beneath the stem, and in such a manner that it strengthens its whole length; and then wind the worsted around both so closely and tightly that nothing of the stem or wire can be seen. Then take a small leaf and fasten it in the same way to a long wire, which is to be the main stalk of a branch. Along this dispose the other leaves naturally; bending the ends of their wires as needed, and covering all together by continuing to wind the worsted as before. Several branchlets or sprays may thus be gathered upon one stalk, forming a large bough or a long garland. Avoid stiffness and flatness of position; set and bend the stems in a life-like manner. For this the wire stems are a great advantage. They also contribute to the durability of the leaves, which, if preserved with no support save their own stems, are soon broken, unless extreme care is taken.

The beauty of oak leaves is much enhanced if clusters of acorns in their cups are introduced among them. The cups must be punctured with an awl, to admit the end of the wire that is to serve as stem; the acorns then glued to the inside of the cups. When these are dry, wind the wire with the brown worsted as in uniting the leaves. Birch burrs must be glued directly to the wire, which it will be convenient to wind with the worsted, and form into a branch before the gluing takes place. They are a pretty addition to branches of the golden birch-leaves. The red berries of the black alder, and the scarlet and orange seed-vessels of the *Celastrus scandens*, (climbing bitter-sweet,) gathered before the frost has touched them, will keep fresh and bright on their own stems a long time, and add much to the beauty of any collection of leaves.

These boughs and garlands, arranged tastefully in vases, drooping around pictures or statuary, or hanging upon the walls of a room, seem to lend it the sunshine of a perpetual Indian summer. The most desirable leaves for this purpose are those of the oak, maple, elm, sumach, birch, and wild cherry; though contributions from woody shrubs and garden bushes never come amiss, if of substantial texture and smooth surface; and green leaves of fern—fronds of the common brake—with their long plumes of verdure, make an agreeable contrast to more brilliant colors and more fanciful shapes. Fern-leaves should be ironed in the same manner as other foliage. But they need no oiling, and if not hung where the air is intensely hot and dry, will remain handsome several months.

It is a mistaken notion that autumn leaves need varnishing. Varnish makes them brittle, and more liable to crack; while the excessive lustre that it imparts is unnatural. Oiling gives sufficient polish, deepens, clears, and preserves the colors, and keeps the tissues somewhat elastic. When they get dusty, wipe them with a damp cloth. If they curl, dampen them, and place the branch for a few hours between papers under a pile of heavy books.

The changed leaves of autumn may also be used for other ornamental purposes. Small wreaths to surround unframed pictures can be made, fastening the wired stems by sewing, or by winding with worsted, to a narrow circle of pasteboard, or a ring of wire-taste; the sumach, elm, or cherry-leaves are best for these. And carving may be successfully imitated with oak-leaves and acorns. For this glue the under surface of the leaves to a picture-frame of pasteboard, or of wood stained a dark color; cut the acorns, and their cups also, in halves, and intersperse them among the leaves, gluing them in a flat position; and then varnish the whole. The same work makes a pretty front for a bracket. And little sprigs and branches of maple, elm, or cherry, with their natural stems, may be ironed, and then fastened with gum tragacanth to the pretty whitewood boxes, letter-cases, and other articles that are prepared for painting and decalcomanie; being afterward lightly varnished, or not at all, according to fancy. Sprays of maple or elm, or oak-leaves and acorns, may, in the same way, ornament pasteboard or wooden slips for letter and card racks; the lining—which should be of the same shade as the leaves—being first glued to the frame.

Love of Gardening.

"In eastern lands they talk in flowers,
And they tell in a garland their loves and cares;
Each blossom that blooms in their garden bowers
On its leaves a mystic language bears."

MANY of the wisest and best of men have signalized their love of gardens and shrubberies by causing themselves to be buried in them—a custom once frequent among the Greeks, Jews, and Mexicans.

Orpheus is said to have been buried in Thrace; and his monument was surrounded by olive-trees, in which a great number of nightingales were accustomed to build; Plato was buried in the groves of Academus; Wieland buried the wife of his heart in his garden at Osmannstadt, where he was afterward buried himself; and Sir William Temple, though he expected to be interred in Westminster Abbey, gave orders for his heart to be inclosed in a silver casket, and placed under a sun-dial in that part of his garden immediately opposite the window of his library, from which he was accustomed to contemplate the beauties and wonders of his garden.

An ardent lover of nature himself, the Marquis de Girardin thought he could not inter his unfortunate friend Rousseau more to the satisfaction of his immortal spirit than by burying him in the Island of Poplars, situate about ten leagues from Paris.

This eccentric genius, as was justly and nobly observed by one of his bitterest enemies, possessed the head of a man and the heart of a woman. He once took up his abode in the Island of St. Pierre, rising in the Lake of Bienne. Since his residence it has been called Rousseau's Island. This isolated spot is one of the most beautiful in the country; hence, during the vintage, parties of peasants filled the woods and amused themselves in dancing, running, and strolling about, enjoying the coolness of the shade and the freshness of the water. The pleasure which Rousseau enjoyed in this retreat, for a short time, obliterated all sense of injury and misfortune. "I was permitted," says he, "to remain only two months in this delightful island; but I could have passed there two years, two centuries, all eternity, without suffering a moment's fatigue; although my whole society consisted of the steward and his family, I esteem these two months as the happiest period of my life, and so happy

that I could have passed my whole existence without even a momentary wish for another situation."

After a short time spent in this retreat, in a manner so delightful to his imagination, the unfortunate hermit unexpectedly received a peremptory order from the government of Berne to quit the island. On receiving this order, finding that fortune was his irreconcilable enemy, he gave himself up to despair; and petitioned, with all the ardor of a disordered mind, to be condemned to perpetual imprisonment. The only indulgence he required was, to be allowed the use of books, and to be permitted at certain intervals to walk in the open air. Even this was denied him.

"The study of botany," says Dr. Aikin, "caused several summers to glide away with me in a more pure and active delight than almost any other single object ever afforded me. It rendered every walk and ride interesting, and converted the plodding rounds of business into excursions of pleasure."

Don Emanuel, of Portugal, was an admirer of gardens. A lover of music and a cultivator of science, this illustrious prince wore mourning for the loss of men of merit; and history decrees him the honor of banishing distress and poverty from his kingdom.

And here, though last in order, though not least in our estimation, permit me to record an instance of pure taste in a man living in the humblest sphere. His name was Morgan, and he was employed in one of the furnaces in the county of Monmouth, England, for upward of thirty years. All day, and frequently a part of the night, he stood before two immense furnaces, not only in winter, but in summer. He was the picture of an Ethiop; yet his house was clean, and his garden well ordered. "The greatest delight in the world, sir," said he one day, "is a garden; and the best ornament a poor man can have in that garden is a hive of bees." In my youth, too, I knew a young man who won a rich, beautiful, and accomplished wife, by sending her as a present a small collection of flowers, inserted between the leaves of *St. Pierre's Studies of Nature*. The lady was beset with admirers; but she had the good sense to be more captivated with this delicate indication of affection than with the inane gallantry of men who had little to distinguish them but vanity and vacaney, wealth, and a very exalted opinion of their own importance.

The art of gardening was known to the Carthaginians, who were exceedingly attached to flowers.

But the Greeks had little taste for flowers, except as sensual excitements. They seldom imported plants, and took but little pains to improve their indigenous botany.

The Britons were ignorant of this luxury till it was taught them by the Romans. In the time of Agricola, however, they had made great progress, and had reared several species of flowers and fruits; having found their soil sufficiently rich and various for almost every European fruit, except the vine and the olive. The Dutch were late in deriving profit or pleasure from this pursuit. The taste once imbibed, soon became so captivating that they named many of their flowers after distinguished statesmen; \$4300 were paid for a single *Semper Augustus*; for three of them together, \$11,000; for one hundred and forty-eight grains weight, \$1500; for two hundred and ninety-six grains of Admiral Liefkenshoek, more than \$1300; for Admiral Enklinzen, more than \$2000, etc. In 1835, the bulb of a new tulip, called *The Citadel of Antwerp*, was sold to M. Vanderweik, of Amsterdam, for \$3200. For a Viceroy on one occasion, were paid four tons of wheat, eight tons of rye, four fat oxen, eight pigs, twelve sheep, two hogsheads of wine, four barrels of beer, two barrels of butter, one thousand pounds of cheese, a bundle of clothes, and a silver pitcher.

At an auction in Alkmaer, some bulbs were sold for more than \$30,000. An individual in Amsterdam gained more than \$23,000 by this trade in four months. In one city of Holland, it is said, more than ten million tulip bulbs were sold.

Hyacinths first began to rise in estimation in 1730. In that year \$650 were paid for "*passee non plus ultra*," and in the same proportion for others. Between Alkmaer and Leyden there are more than twenty acres of land appropriated to hyacinths alone, which thrive best in a loose, sandy soil. The Chinese, too, are accustomed to give large prices for the Montan; hence that flower is not unfrequently called the *Paleangkin*, a word signifying "a hundred ounces of gold."



Hints on Selection of Varieties of Fruit for Fall Trans-planting.

It would be well for every cultivator to consult popular preferences of fruit *in the markets*, when he is making up his fruit lists.

Although there are a thousand varieties of the pear and apple together, yet our selection would be less than a dozen of each, and a half-dozen would be better still, giving less chance of failure.

We expect to plant this fall over a thousand pears, plums, and cherries, and the following is our list of varieties:

Standard Pears.

EARLY.	MEDIUM.	LATE.	EXTRA, FOR TRIAL.	DWARFS.
200 Bartlett.	100 Beurre Clairgean,	100 Beurre d'Anjou,	50 Flemish Beauty,	300 Duchesse d'Angou-
100 Clapp's Favorite,	100 Beurre Bosc,	100 Vicar of Winkfield.	50 Virgalieu.	lème,
100 Doyenne Boussock.	100 Seckel.			100 Louise Bonne de Jersey,
				100 Glout Morceau.

The Flemish Beauty and Virgalieu are liable to crack badly in some localities, but frequently succeed in some fortunate spot year after year. The Louise Bonne de Jersey is somewhat variable; still, like all the rest, it is a popular pear, and worthy of a place on the best list. It will be seen that we divide our forces over a long period of ripening. The Bartlett is our most popular pear; but coming in early, when there is an abundance of other fruit in the market, it does not prove as profitable as those varieties that come several weeks or months later. By reason of extended means of communication, our markets can now be supplied with any kind of fruit at almost any time during the growing season, and prices of *late fruits* prove now more uniformly satisfactory and steady than those of early varieties. Hence, while the Bartlett is the surest to grow, still we find it more politic to divide the list over a gradual series of ripenings.

Best Selection Cherries.

Black Tartarian.	Great Bigarreau of Mezel,	Governor Wood,	Yellow Spanish,	Black Eagle,
Napoleon Bigarreau, Elton,		Coe's Transparent,	Black Heart,	Knight's Early Black.

The choicer kinds of cherries are now becoming very profitable, and the demand is steadily increasing. Of all varieties, the Black Tartarian is still most popular, and the leading kind. All large, dark-red cherries sell for more than small ones, or even those of yellow and light color.

Best Selection Plums.

Washington,	General Hand,	Reine Claude de Beval,	Columbia,
Imperial Gage,	Smith's Orleans,	Jefferson,	Bleecker's Gage,
Huling's Superb,	Yellow Gage,	Bradshaw,	Coe's Golden Drop.

Best Selection Apricots.

Moorpark,	Large Early,	Peach,	Breda,	Early Golden.
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So few are engaged in the culture of plums and apricots that for some years it will be very remunerative. The terror which the curculio seems to hang over the heads of fruit-growers will serve to keep many from entering into it, and cause many to go out of it. It is, to say the best, a very doubtful branch of fruit culture; but if a single acre can be spared to put out a

hundred trees, and faithfully attended to, we do not see why it should be less profitable or more doubtful than pears or cherries.

Planting Cherry-Trees.

CULTIVATORS who desire to have successful cherry-trees from the time of planting, must not fail to *mulch* them when set out.

We planted some this spring, but, owing to some neglect, they were not mulched, and nearly all have died.

The cherry is a strong-growing tree, but needs moisture at its outset to assist it in a successful start. After it is well established, a light soil is better than a heavy one. Mulching cherry-trees is one of the indispensables to a good plantation, and, in fact, it should be applied to all newly-planted trees. The proportion of loss from dead or dying trees will be much less in consequence of its use.

Barry's Fruit-Garden.

It is to be regretted that this valuable old book is out of print. It is exceedingly difficult here to obtain copies for any purpose, although the demand is quite good.

Although we have many works on fruit culture, and of general intrinsic excellence, some of them preëminently so, yet there is no book in our entire library, that has as much "*juice*" and "*pith*" to it as this. If we have a desire to get best ideas of any particular variety, whether advisable to grow it or not, somehow we are best satisfied by consulting this in preference to any other. We esteem it highly for its excellent selection of fruit lists, but, best of all, for its sensible views on the treatment and care of fruit trees.

Those departments included between pages 157 and 244, treating of permanent fruit plantations, and pruning, are unequaled by any thing, for practical information to growers, in the world. We hope a new edition will be issued.

Substitution of Varieties by Nurserymen.

A WESTERN fruit-grower not long since sent an order to a nurseryman for a dozen different varieties of a particular kind of fruit. The order was accepted, acknowledged, and filled. The trees were sent, and supposed to arrive safe; but on examination it was found that, instead of a dozen varieties, *four* came, and of these, of course, double as many trees of each variety as were needed. Readers can well imagine the provoking disappointment and consequent loss. But we are led, beyond this single incident, to consider some of the unfair practices now upheld by even the best of nurseries. The first is the right of *choice of varieties*. In a majority of the wholesale catalogues of the country we see printed, in large italics, the sentence, "*We reserve the right of selection of varieties.*"

We can hardly conceive of a more unfair method of doing business, which is practically a compulsory mode of forcing upon a buyer a lot of stock the nursery does not desire to keep, and the purchaser does not want under any circumstances.

Nearly every fruit-grower takes pains to ascertain the varieties most suitable for his locality, (for all localities are not alike in favorable growth of fruits,) and his order for trees is based on that knowledge. Any change from that list, or any substitution, is a source of deep injury; for, whether he discovers the fact before or after planting, he is almost always a loser in *time*, if not money, and the vexations will hardly atone for the misdeed.

The Bartlett pear is known to be the most desirable pear produced. Every one wants it, and no collection is complete without a good proportion of it; yet no nursery is fully supplied with it, and orders are never half filled, but, on the other hand, ground is devoted to varieties of only poor value or second-rate importance, for which there is little call and less use.

The list of really desirable varieties is being rapidly thinned down, year after year, to a very small number—less than twenty; and nurserymen should be prepared to meet the demand more and more for such leading sorts.

A second method of injustice is in sending No. 2 and No. 3 trees at No. 1 prices. We have seen this practiced oftener than generally supposed, and much injury caused thereby.

Another method is to send trees of a *younger age* than ordered. The owner may receive a good lot of trees of their age, yet will lose time and patience by accepting them instead of the older stock he ordered.

We believe the horticultural trade is as honorable as any other branch of business, and has no more errors or mistakes than others; yet we shall not be satisfied until that obnoxious sentence is expurgated from all catalogues, and every man's order is filled literally as given, or else declined altogether.

The Agriculturist Strawberry.

WHAT is the quality of this famous berry? We characterized it in a late number of *THE HORTICULTURIST* as "absolutely wretched;" to which the worthy editor of the *American Agriculturist* objects, and considers its flavor good enough for the masses.

We grant the position as compared with the Wilson; but after eating such delicacies as Triomphe de Gand, Jucunda, Napoleon III., and Charles Downing, it is going back a long ways to taste the *Agriculturist*, and still like it.

We tried it last spring. At one moment a rich, luscious morsel of a Napoleon III. went into our mouth, and then it was followed by a berry of the *Agriculturist*.

Its immediate ejection would have made our neighbor editor laugh heartily; for we vowed we would never eat it again, and we have kept our word. The truth is, that the *Agriculturist* is a splendid-looking, productive fruit, berries of large size and handsome color, very attractive in the market to buyers, and brings occasionally astonishing prices.

To a palate unaccustomed to a discriminating taste and comparison with other varieties of choicer character, the quality will hardly be noticed, especially when liberally covered with sugar and cream. It will do for those who have no other berry to grow or eat, and its quality will not be noticed. Imagination, glowing in the delights of "*strawberries and cream*," will cover up all deficiencies. But for ourselves, "*No more, thank you.*"

Naomi Raspberry.

F. R. ELLIOTT still insists that there is a distinct difference from the Franconia.

"Any statement that they are identical is an error. Doubtless, many have got Franconia for Naomi, as the canes of the two in spring or winter are much alike; but Naomi is a berry with smaller granules, a little more conical, and of a richer and far better flavor than the Franconia, while its canes may be classed as perfectly hardy by any who class the Clarke as hardy."

A Sensible Remark.

In a late number of the *Rural New-Yorker*, F. R. Elliott makes the remark: "That there is distinctness in the differing varieties of raspberries, we do not doubt; but our advice to planters is, not to destroy a plantation of one, until another has been tested in the same locality, and under the same treatment, and found superior." Mr. Moore ought to have paid Mr. Elliott a dollar a word for so good advice, which is worthy of general notice. We believe it the duty of all journalists to encourage new varieties of fruit of genuine excellence, but we think it the height of folly for any one to tear up an old plantation of fruit to put in a new variety, until it has been well tested in the same locality.

A Western Pear Orchard.

MR. LOUIS STRACKE, of Warsaw, Ill., has a pear orchard of 1300 trees, described as a very choice property. They are planted ten feet apart, every other tree a standard, and the intermediate ones dwarfs.

The selection of varieties is:

Bartlett, 225,	Duchesse, 100,	Buffum, 75,
Belle Lucrative, 133,	Flemish Beauty, 50,	Seckel, 95,
Howell, 50,	Beurre d'Anjou, 125,	Louise Bonne de Jersey, 100; and a few others.

The land is well drained, and the trees well cared for, kept properly pinched back, and the branches trained to regular shape. The practice of pinching is concisely explained in Mr. Stracke's own words: 1, To induce fruit-bearing; 2, to improve the shape of the tree; 3, to harden and mature the wood; and 4, to prevent blight. We observe that quite a number of the members of the Warsaw Horticultural Society approve of pinching as a cure for blight, but the good drainage of the land seems, in our mind, the most satisfactory of all methods.

Fruit Culture in Virginia.

WE were aware of the great interest in fruit culture and gardening in Virginia, and that considerable profits had been realized, but could place our hands on no estimate or figures until we received the following a few days since, with some papers from Norfolk. From this port alone there have been shipped:

1,000,000 baskets strawberries,
50,000 barrels potatoes,
40,000 barrels peas,
10,000 barrels snaps,
650,000 heads cabbage,
20,000 barrels cucumbers,

160,000 boxes tomatoes,
500 barrels squashes,
200 barrels beets,
40,000 bunches of radishes,
100,000 cantaloupes,
50,000 watermelons.

The estimated value received for the above is \$1,043,200.

These figures are for 1868; those for 1869 must be still larger.

It is stated that one gentleman in Southampton County sold \$10,000 worth of strawberries off of ten acres, the buyer furnishing the boxes for transportation. Another gentleman made \$8050 from eight acres. Another was able to purchase and improve a splendid farm on the produce of the first two years.

On another truck farm, several New-York gentlemen cleared \$45,000 by the sale of berries and vegetables.

These figures are unusually large; but, like all other localities where fruit culture at the outset is exceedingly profitable, too many engage in the business, and year after year prices subside, and the business becomes no more profitable than at other points.

The fruit from Norfolk came through by boat in excellent order; but, arriving at a cool time, before the people felt disposed to eat largely, also in a very abundant supply, the prices averaged only 25 to 30 cents per quart, and as fresh fruit from Maryland and Delaware began to reach the markets, berries from points further South were closed out at any price.

From the extraordinary successes of this year and last, we fear the Virginia growers will overdo the business among themselves, and practically fruit will be as abundant and cheap as Jersey fruit has been this year.

It would be well for all fruit-growers to remember that *moderate quantities and steady supplies* are more profitable than a too eager haste for more acres, and therefore more fruit.

Michigan Seedling Strawberry.

As far as our experience has gone, we have found it the finest in growth of all varieties we cultivate. It seems to succeed in any soil, and especially a sandy one, and we have hopes that it will justify the anticipations we have formed of it. We observe that Messrs. Purdy & Johnson are also highly pleased with it. "The plant is the nearest in foliage and vigor to the Wilson of any sort we have ever tried. Fruit, light scarlet, uniform in size; round to flattish; medium to large; *very productive*; flavor, excellent; firm, and will undoubtedly bear carriage a long distance."

Seneca Black-Cap Raspberry.

If we were to choose only one variety of the Black-Caps for family use, we should prefer the Seneca.

It is quite late, fully as much so as the Mammoth Cluster, but has a beautiful habit of growth, very productive, berry of large size, fine quality, and in all respects very desirable for amateur purposes.

We hardly know yet how valuable black-cap raspberries will be in our markets. The people prefer the red varieties, and the black-caps do not seem very popular. It is a mistaken prejudice, we believe; for there is no fruit more thoroughly enjoyable and healthy than a good dish of fine-flavored black raspberries. Dealers tell us that they will not last long in the markets. We trust, if this be the case, that *families* will not forget their claim on their attention.

Marketing Fruit.

THE agricultural and horticultural press this year have accomplished much good in inducing fruit-growers to grow their fruit in a better manner, and also to market it in a better manner.

A commission dealer told us lately that, although the shipments of fruit this year had proved double that of any previous year, yet the proportion of good fruit seemed to be greater than ever. Immense quantities of poor strawberries, blackberries, and peaches were sacrificed; yet if even these had been properly assorted and sent in good baskets, the difference in price would have more than redeemed the waste fruit rejected. We remember a special instance. A peach-grower possessing a fine orchard of peach-trees, found, as his men brought in the baskets from the orchard, they contained large quantities of inferior fruit among the better fruit. He assorted carefully before shipping, and of every hundred baskets forty were thrown away as cullings. The sixty remaining were sold in the market for \$1.25 per basket, producing \$75. Had the original hundred been sent, they would have yielded but \$60, and the freight of the other forty counted in the expenses. This instance proves the value of *assorting* fruit for market. We never have known *good fruit* sold at a loss, and in nearly every case it has proved a very handsome profit. Notwithstanding the abundance of strawberries in the market this year, yet the strawberries of the writer averaged 20 cents per quart from beginning to end of the season, and blackberries the same, while immense quantities of medium fruit were closed out at any price.

The great truth as to the failure of so many fruit-growers and amateurs is, that they do not *understand the markets*.

A good observing visit once during the fruit season will do more practical good than a year's stay on the farm, and dozens of books.

Sable Queen Blackberry.

OUR observation of it this year leads us to believe it worthy of addition to our present list of blackberries. It seems to be exceedingly productive, while the vine is perfectly hardy; not as luxuriant as either the Lawton or Kittatinny, and more easily restrained and taken care of in cultivation.

The berries are of good, large size, larger than the Dorchester; although not equal to the mammoth specimens of the Wilson and Kittatinny we have grown, still will average as good as the Lawton. The color is of a fine brilliant black, which it retains to the last. The flavor is excellent, pleasant and sweet, entirely free from the acidity which characterizes the Lawton and even the Kittatinny.

We can not say how far it will be valuable for market, as it ripens one week later than any variety now grown; still, in all other qualities it seems to be very suitable for general culture.

Fruit Humbugs.

WE observe that the *Rural New-Yorker* announces its intention to level its spear and dash at fruit humbugs of every description, waging unceasing war to the very latest sign of life.

We applaud the *Rural* for adding such a "pious" department to its already ample columns, and trust it may do some good.

But it is a fair question to ask what are fruit humbugs, and how far they can safely go in their exposure.

It is a fair question also to ask whether it is right to pass *final* judgment upon the *first* exhibition of a new variety of fruit, and make reports in accordance with a preconceived prejudice. Every dealer has a "pet," a "fancy;" a majority have new fruits they expect to bring out at some time or other. To throw cold water upon every new aspirant to public favor, without fair examination, will in the end bring ridicule upon the person that practices it.

While it gives life and vivacity to a journal to "pitch into" all new things, we have found from experience the better part of valor to consist in waiting, giving every candidate a fair and unprejudiced trial, telling the plain truth and no more, thus gaining a reputation for reliability, candor, and fair play that is worth more in the long run than an anxiety to expose humbugs.

Pruning Blackberries.

WE have never witnessed so fine an example of the benefits of pruning blackberries as we observed lately on the grounds of William Parry, Cinnaminson, N. J.

A field of Lawton blackberry, eight acres, was selected for experiment. The first six rows were pruned closely, both top and side shoots, the year before, while the remainder of the field was left unpruned.

This year, in time of fruiting, the pruned rows all ripened their fruit large, full, abundant, and early. The berries were quickly gathered and quickly disposed of; but on the unpruned portion of the field, an immense number of berries set, and began to color red, but never advanced beyond that point, and never ripened, remaining on the branches and gradually dying out. Even those that did ripen were small and of little value—especially so this year, as blackberries have been so abundant, and brought only very moderate prices.

To obtain a good crop of fruit, blackberry bushes should be cut back in July to four feet in height, and all side-shoots pinched off at the tips every two or three weeks down to September. In this way the canes are fully ripened, and become able to stand the winter weather; the fruit is more abundant, larger, and earlier.

A pruned plantation is a fortune to its owner, just as much so as a well-kept strawberry-bed.

A New Horticultural Editor.

OUR friend Andrew S. Fuller has become horticultural editor of the *Hearth and Home*, Mr. Joseph B. Lyman retiring to devote his time specially to the *Tribune*.

We have been accustomed for so long a time to see Mr. Fuller's name attached to his articles, that in his new position his individuality seems lost, and we can not tell now which is Fuller and which is not. A spicy article, however, now and then, will tell us that he is alive and doing good service.

Strawberries among Fruit-Trees.

THE *Utica Herald* has a very sensible article disapproving of the practice of growing small fruits among standard fruit-trees:

"The employment of the ground, where young plantations of trees are made, in strawberry-beds, is not to be recommended. We notice that this course is being adopted by some, and more especially by those living in the vicinity of villages, or where there is a market for the sale of the fruit. They argue that the trees need some sort of cultivation; and as the growing of strawberries for market is extremely profitable, a very lucrative business can be carried on in the sale of fruit; while, at the same time, the trees are growing and maturing, and the work laid out on the strawberry-beds is of equal benefit to the plants and the trees. Now, there is scarcely any plant that exhausts the vegetable manure in the earth more rapidly than the strawberry; and hence it is observed that these beds require frequently a change of ground—that is, to be removed to a soil where the vegetable manure has not yet been consumed.

"Young plantations of trees require that the land be thoroughly cultivated from year to year.

"We do not know how far the experience of others accords with our own in regard to strawberry culture among trees, but may remark that while visiting the fruit region of Western New-York, the past summer, we looked over the seed-farm of Mr. Hayward, of Rochester. When this very question of strawberry culture was put by a friend to Mr. Hayward, and his advice asked, Mr. H. replied promptly and decidedly that strawberry culture among a young plantation of trees would be fatal to their thrift and success; and he advised our friend to abandon the idea of growing the plants in connection with his young orchard."

NOTE.—We would be pleased to have any of the readers of *THE HORTICULTURIST* communicate their experience on this point. Even admitting that there is danger in planting strawberries among fruit-trees, it is still an open question whether the practice is permissible where the ground is highly manured yearly, sufficient to support both crops—the small and the standard fruit.

Raising Strawberries from Seed.

J. S. DOWNER, of Kentucky, who has been so successful with seedling strawberries, gives the secret of his success, which is "attributable mainly to *perseverance*":

"I do not allow myself to become discouraged by failures, and each successive year a new bed of seedling strawberry plants contributes to the interest and enjoyment of the season, to a very great extent, with me. My plan is very simple, and requires only patience. When my berries are fully ripe, I select the desired number, mash them upon coarse paper or a piece of cloth, dry them in the shade for a few days, and then rub them so as to separate the seed, and sow at once. The soil should be well prepared before sowing; and if the weather is afterward dry, occasional watering of the bed will be necessary. The plants will be up in about ten or twelve days; and if properly cared for by watering in dry weather, removing all the grass and weeds as they appear, these plants will be ready by the next spring to plant out in permanent beds. All the vines or runners should be kept until the testing of the plants has been completed, which usually requires some three fruiting seasons.

"It is often asked, How long before the young seedling strawberry-plant will fruit? With care, most of the plants will produce fruit the first season after sowing the seed."

Transplanting Wild Raspberries.

A FRUIT-GROWER at Pentwater, Michigan, has tried this experiment, and reports to the *Prairie Farmer*:

"When we came here, two years ago, we searched the woods for black raspberries, and found two hundred and fifty, which we set and cultivated. All bear very well; some small, some large. A few bear tremendously of large berries, leaving nothing to be desired, I think, unless earliness; for this is very late, not maturing a berry until the Doolittle is about whipped; and I counted two hundred and twenty trusses with an average of twenty berries to each, on one bush, making a quart by count, making eighty-four quarts on one hill of three bushes."

Rogers's Hybrid Grapes.

MR. ELLIOTT, of Cleveland, in the *Rural New-Yorker*, does not speak encouragingly of Rogers No. 15 and Rogers No. 9. They have been affected with mildew, where he has seen them growing along the lake shores. Iona has done well this year, and the vines are covered with perfect clusters. The Isabella and Adirondack are feeble and unhealthy.

The Hampton Bellflower Apple

Is a new seedling grown from seed of the Bellflower, by W. C. Hampton, Mount Victory, Ohio, who states that it has proved one of his largest, finest, and most profitable apples. It ripens from November to February.

Tetofsky Apple.

D. W. ADAMS, of Waukon, Iowa, praises this new Russian apple very highly:

"It is a great prize to us of the far North-west. It is very early, (a trifle earlier than Red Astrachan,) good size, always fair, a very young bearer, and enormously productive. It also is at the very head of the best for hardness, ranking with the Siberian crabs and Duchess of Oldenburg in one respect. I consider myself very fortunate in having this comparatively new and rare sort in bearing in a situation so exposed as to thoroughly test its many good qualities.

"It is of very similar quality and texture to the Duchess of Oldenburg, namely, a clear, brisk, lively, and abundant juice and breaking flesh—a class of fruits much relished by a large part of our people."

A New Cherry.

A. O. WINCHESTER, of St. Joseph, Michigan, has grown a new seedling cherry, black and sweet, that is described in the *Rural New-Yorker* as of "medium size, roundish oblate, without suture, of a dark, purplish-black color; half tender, with flesh of a dark, liver color, juicy, pleasant, sweet sub-acid, a few removes from the Mazzard."

Arnold's Yellow Canada Raspberry

Is described by a correspondent of the *Toronto Globe* as ripening about the month of July, while all the other sorts were quite green in the vicinity of St. Catharine's. The fruit is of medium size, of pleasant flavor, though not very high this wet season. The amount of fruit on the plant at this time is hardly equal to the Franconia or Philadelphia; yet, on account of its early ripening, it is very desirable. The plant is very hardy, having endured the past three winters without any injury, and is the only perfectly hardy white variety in cultivation. It also bears an autumn crop, ripening in October.

Cherries for the West.

"While it is a fact that the highest-flavored cherries are among those of light color, and they are to a certain extent specially valuable for private gardens, no man planting for market purposes, in localities where the crop has to be shipped, should ever use one of them. I have this year examined over forty seedlings, light colored, many of them really excellent; but I have discouraged the introduction of them all, although two or three ripened at a late period and were free from rot. One or two late black varieties I have made special note of, one especially, which is of a Duke character in size, form, color, and flesh of fruit, but of the sweet or Mazzard variety in growth. If it proves as good two or more years hence continuously, I shall feel like giving it publicity; meantime, in due season, I propose grafts be distributed of it to sections for trial."—*F. R. Elliott in Prairie Farmer.*

Ferris and Caywood Seedling Strawberries.

EDITOR HORTICULTURIST:

POUGHKEEPSIE, Aug. 9, 1869.

DEAR SIR: In the August number of THE HORTICULTURIST we find our name attached to two new seedling strawberries, we having had no knowledge of the intention of any one to thus name them.

Five years ago, A. J. Caywood raised many seedling strawberries, and since they have been sadly neglected. One year ago, we sent a gentleman in your vicinity a few plants of some of the seedlings, and made no special selection. Two or three of the varieties we had selected we did not present him. This gentleman, undoubtedly through the purest intentions, has named two of them as above.

Inasmuch as we have some seedlings which we prize more highly, and those we sent to New-York entirely neglected, as we told our friend and the Farmer's Club, we respectfully ask the privilege of saying to your readers that there are no two varieties of strawberries bearing our names.

Very respectfully,

FERRIS & CAYWOOD.

Jucunda and Triomphe Strawberries.

THE editor of the *Toronto Globe*, in a comparison of the above two varieties, with notes as to their points of difference, considers the Jucunda is better organized as a plant to be more prolific than the Triomphe de Gand. In the flower of the Jucunda, also, the stamens are more elevated around the stigmas, and the anthers larger and better filled with pollen. Now, it would seem from these observations that the formation had something to do not only with the fertility but the flavor of the fruit; for he remarks that "flavor must surrender its dominion to fertility;" and this conclusion he thinks will hold good with regard to other fruits besides the strawberry. Now, the Jucunda being the most fertile and greatest producer, though so like

the *Triomphe de Gand* in size, in color, and in form, that it may be taken for that choice variety, lacks the flavor and aroma which is one of the peculiar characteristics of the latter, which has not the bearing quality of the *Jucunda*. He therefore comes to the conclusion that "we must look for less germs of new life in the higher flavored fruits, and less flavor in those which contain the greater number of seeds, in the varieties of each distinct species."

Successful Plum Culture.

WILLIAM DAY, of Morristown, N. J., an inveterate curculio-hater, lays down his rules for successful plum culture:

"First, let the planter be sure to secure *thrifty trees*; for no after-culture will compensate for the loss and consequent mortification and vexation of any attempt to recuperate *stunted plum-trees*; like a stunted mule, they may *grow*, but seldom *thrive*. Next, plant as compact as admissible—say sixteen feet apart—in rows, in the form of a peach orchard, to the extent of one quarter or half-acre at least, as a less quantity of ground occupied than we propose would hardly be a *remunerative* experiment. At this distance each way, 170 trees would plant an acre. Give the trees good nursing, care, and attention, by constant cultivation, *until they are ready to bear*. I should have said the plat should be adjoining the hog-pen; then run around the patch a suitable inclosure, and turn in the hogs, and give them the 'freedom of the city,' from the time the *first blossom* is seen until the fruit is ripening; then turn out the hogs; spread clean straw around the trees for the fruit to be gathered upon; handle it with the greatest care; send immediately to market; pocket the profits, and lie down at night upon your pillow with a clear conscience, thanking the Almighty for so great a blessing as the delicious plum."

Leached Ashes vs. Insects.

THE editor of the *Iowa Homestead* believes in the efficacy of ashes against borers or other insects:

"For many years, the apple-tree borer has given the orchardists great and vexatious troubles, and many experiments have been tried, but almost all proved only a partial remedy, while many have been entire failures. We have tried white-washing, heavy mulching, mounding up the earth about the tree, and several other experiments, and all to but little avail. Washing with weak lye or strong soap-suds seemed to answer a good purpose until heavy rains washed these off, and their effect was gone.

"Some ten years ago, we tried the effect of leached ashes about the trees, a peck to each tree, close to the body; and of four hundred trees so treated, not one was molested by the borer, while one hundred other trees, not so treated, were many of them badly damaged by them. We have continued ever since to use leached ashes about our apple, pear, and plum-trees, and have never seen a borer in any tree so treated; and we consider this remedy so certain and so valuable that we should use the ashes if they should cost one dollar per bushel. It is probable, in the cultivation of the orchard, if a little dirt was thrown or covered upon the ashes, that the borer could get to and into the tree without coming in contact with the alkali of the ashes, and thus the object might be defeated. If trees are free from borers when taken from the nursery, we believe by this treatment they can be kept free for all time to come."

We do not consider the rule entirely certain, neither should it exempt the cultivator from a careful personal examination of the trunks of the trees twice or more each year. The ashes are of the highest value as a fertilizer, as we have often stated before.

Black-Knot in Cherry-Trees.

A CORRESPONDENT of the *New-England Farmer* says that thirteen years ago he took up five cherry-trees covered with black-knot, and set them out in his garden. They have grown well and are now handsome trees. They bear abundantly every year, afford a delightful shade, and are truly an ornament to the garden; but in all directions in the neighborhood the cherry-trees are being spoiled by the black-knot. His trees have been preserved by simply removing the excrescences. As soon as a branch is found to be affected, it is removed, if not too large. If the limb is too large, the knot is shaved off clean. This is all that has been done. On examining the "knots, or excrescences, he invariably finds from one to a half-dozen grubs or worms, varying in size from a microscopic mite to a worm half an inch in length."

Crab-Apple for Hedges.

IN respect to a suitable shrub for hedges, adapted to a high northern latitude, the *Toronto Globe* says: "It has recently occurred to us that the wild crab-apple would prove a good subject to experiment upon in the way of obtaining a hedge plant in every way adapted to our

wants. It is inclined to be shrubby, is a very stiff grower, and well covered with sharp spines, grows much more rapidly than buckthorn or hawthorn, and is perfectly hardy, and liable to no disease or drawback that we are aware of."

Apples for Missouri.

THE *Rural World* recommends the following:

"As to varieties, White Juneating, Early Harvest, and Red Astrachan do well here; Williams little known; Benoni, so far as tried, satisfactory. Very few of the others are of much value here, becoming, as they do, fall fruit; but north of the line of this State, they do well. Fameuse, or Snow, has been one of the most early and profuse bearers we have; fruit small; white flesh, tender and good; bears a heavy crop one year and a light one next. It is regarded in the family as the best in the orchard for apple-butter. The Jeneton, Wine Sop, Ben Davis, Michael Henry Pippin, Campfield, and Gilpin do well here, varying in quality of tree and value of fruit."

A New Prairie Blackberry.

A NEW blackberry has been discovered on the prairies of Illinois, on the grounds of Henry H. Broad, Livingston Co., and been cultivated by him ten years. It has never been injured by winter, and has been remarkably productive. It began to ripen more than two weeks ago, fully ten days before the Lawton, on the same place. The berry is small, but each cane produces a great many. This season many canes bore 800 and some more than 1000 berries each. The canes are as large and vigorous as those of the Lawton.—*Western Exchange.*

Cherries in Illinois.

A CORRESPONDENT of the *Prairie Farmer*, at Hampton, Ill., favors only the Early Richmond cherry:

"Dear-bought experience has taught me that one Early Richmond or English Morello, taking a run of ten years, is worth fifty of the Heart or Duke cherries, of which I was unfortunate enough to plant some three hundred trees of some twenty varieties. Two thirds of these are now dead; the others looking very poorly. As to the stock, the Early Richmond bears some sooner on the Morello. I will not plant any more of the Morello stock. They sucker too much. I consider them a nuisance in any orchard."

Cincinnati Red Raspberry.

L. L. FAIRCHILD, of Wis., has had a favorable experience with this new variety:

"It seems to be perfectly hardy. It has endured a temperature, several times, of below thirty degrees. At one time the thermometer sank to thirty-five degrees below zero. Not a cane was killed or apparently injured. If any one wants a hardy red raspberry, they have it here; it is also a good bearer with us; we think the same ground gives us more quarts of the Cincinnati than we get of the Doolittle. It is bearing from four to five weeks. As to quality, we think it altogether preferable to any of the black-cap family. Those who have purchased it once are pretty sure to call for it again; it is rather too soft for any but home market, yet we have shipped it to Milwaukee—fifty-seven miles—and heard no complaints. It does not seem to be any softer than the Clark, and has the additional recommendation of hardness. The Clark partially winter-killed the past winter in New-Jersey, while the Cincinnati red, in latitude 43½°, stood the winter perfectly. It has one serious fault. It suckers prodigiously. If the young plants are treated as weeds and hoed down when young, there need be no difficulty in keeping the hills within reasonable limits. In the neighborhood of large cities and towns, a hardy, prolific red raspberry can but prove profitable. We see the present season red raspberries quoted in the Chicago market at 35 cents, while black-caps are only 12½ cents."

Downing's Ever-Bearing Mulberry.

C. B. LINES, of Wabaunsee, Kansas, has a tree of this variety, four years from setting and six years from budding. He represents it as a vigorous, handsome tree, ten feet high, and three years in bearing. The fruit, juicy, fine-flavored, good. The tree fruits from the middle of June to the middle of August. Mr. Lines likes them so well that he has determined to put out twenty-five more trees.—*Kansas Farmer.*

Root-Pruning of Fruit-Trees.

THE *Western Rural*, in a careful article on root-pruning, prescribes this method for doing it best:

"In root-pruning, a trench is opened around the tree to be operated on, at a suitable dis-

tance from the trunk, that distance depending upon the size of the tree and the consequent extent of the roots. About one fourth of the roots may be cut away, and as they extend nearly as far as the branches, the diameter of the circle formed by the trench may be regulated by the spread of the branches. In root-pruning small trees, the soil need not be dug out of the trench, as the roots may be cut by driving down a very sharp spade to the required depth. When a large tree is to be operated on, the lowest roots can scarcely be reached without removing the soil from the trench to the depth of a foot and a half, and then cutting a circle with the spade in the bottom of the trench, at least one foot in depth.

"When a tree has been deprived of the greater number of its fibrous or feeding roots by this method of pruning, manure should be applied to encourage the growth of others. A root-pruned tree, without the application of suitable manure, generally produces a large number of very small fruit; but when the trench is filled with suitable manure, and a heavy top-dressing of it applied to the area within the circle, very favorable results may be expected. On the whole, root-pruning has been found to be injurious to the longevity of trees, and should not be resorted to until all other expedients have failed. The best time for performing this operation is in the fall, immediately after the growth of the tree has ceased."

Eumelan Grape.

WE have had the pleasure of testing some clusters of fruit from this variety. We are very much pleased with the quality, and think, in this respect, it will be even better liked than the Iona and Israella. We have the vine growing, but not in bearing; and can not yet decide as to its growth and possibility of adaptation to all parts of the country.

Floricultural Notes.

A Splendid Rose Hedge.

THE *Florist and Pomologist* describes, in the garden of F. Pryor, Welwyn, England, a rose hedge 280 feet long, skirting one of the principal walks in the kitchen-garden.

The row, originally, was composed of half standards, but afterward was trellised over with wire to the height of about four feet six inches, and four feet in width at the bottom. The whole of the trellis has been filled up with the growth of the roses, and is literally loaded with blooms in all stages of development. The following varieties seem to be admirably adapted to the purpose: Charles Lawson, fine, and a very free bloomer; Lord Raglan; Yellow Persian; Comtesse de Chabillant, first rate; Blairie, No. 2, beautiful flowers, very fine; Gloire de Dijon, profusely bloomed; Jules Margottin, grand; General Jacqueminot; Caroline de Sansal, Chénédolé, Anna Alexieff, all first-rate; the yellow and copper-colored varieties of the Austrian Briar; and last, though not least, the Manetti, which gives relief and variety to its more showy rivals. That this method of cultivation is a very successful one there can be no doubt.

As the trellising can be made to any height or width, the plan can not be too strongly recommended for furnishing tall or dwarf hedges along the walks of either kitchen or flower-gardens, or even to form back rows in ribbon borders.

Spiræa Palmetta.

THE same journal refers to this new variety of the *Spiræa* introduced into England by Mr. Noble:

"It is found cultivated in almost every garden of the more northern parts of the Japanese empire, and is a most useful object when in bloom, being by far the handsomest of the species in cultivation; the deep purple-red of the stems and branches, passing into the crimson-purple of the glorious corymba of flowers, contrasting most exquisitely with the foliage, which in autumn assumes beautiful tints of brown and golden yellow. The *Spiræa Palmetta* is perfectly hardy in England, and will form a valuable addition to our list of hardy herbaceous plants."

Pegged-down Roses.

Few persons are aware of the beauty and elegance of pegged-down roses, when treated as they should be. It is strange so few are to be seen growing on this system, although all who once see them agree in saying that roses are never so effective as when thus managed.

I will attempt to give a short sketch of some of my plants as they are at the present time.

I have just counted 27 blooms on *one* branch of John Hopper, 23 on *one* branch of Madame Boll, 29 on *one* branch of General Jacqueminot, 19 on *one* of Comtesse de Chabillant, 18 on *one* of Louise Odier, 24 on *one* of Souvenir de Charles Montauil, 30 on *one* of Anna Alexieff, 16 on *one* of Madame Clémence Joigneux, and there are scores of others with nearly the same number of flowers. Now, when it is considered that each plant has from five to eight branches loaded with bloom, the effect produced by them can be imagined. I may also state that although these wreaths of roses are so plentiful, the blossoms are by no means inferior to those on the standards.

Perhaps the cause of the pegged-down system not being more general is the length of time required to bring the plants into perfection, namely, three years; but against this drawback, the cultivator must consider that they never wear out, as the young *wood* only is each year pegged down, all the old blooming shoots being cut away.

Some of my beds have been planted twelve years, and are in as fine condition now as when they were three years old.—Charles J. Perry, in *Florist*.

Miss Ingram Rose.

A CORRESPONDENT of the *Journal of Horticulture* (London) remarks: "Never was there a greater disappointment than that occasioned by this new rose. It was hailed by us all as a grand addition, believing, as we did, that it was a hybrid perpetual. It would then have been valuable; as a summer rose, it is useless, being a reproduction only a *little* improved over the old Lady Stewart." American florists, what is your experience with it?

Hints for October.

Orchard and Nursery.

THERE is a certain feeling of satisfaction in gathering the fruit from a well-loaded orchard that half robs labor of its tiresomeness, in admiring the ruby and golden fruit, and in anticipating the enjoyment it will give us around the family circle during the coming long winter evenings; and all those who are blessed with a fair crop of apples and pears this season—as many are not who have orchards, in different sections—should spare no pains in saving it with the utmost care.

In gathering fruit, whether for home keeping or for market, too much care can not be exercised in preserving it from being bruised, etc., as a bruise soon begets decay, and a decaying specimen affects soon all others lying contiguous to it.

Ladders of various lengths and kinds, as well as fruit-gatherers, etc., are needed to aid in gathering, baskets lined with paper, or something to prevent the splits galling the fruit when put in and poured out, and bags are needed to gather in, and good clean barrels to pack them in, if for market. Hand-picking from a ladder all that can be well reached, and the use of some kind of fruit-gatherer for those which can not be secured in this way, or from the ground, seems, then, a necessity.

Where the orchard is of any considerable size, bearing a considerable burden, places should be prepared by spreading a good coat of dry, soft hay, or straw, large enough for heaps of several barrels each, and on these empty each basket or bag, as it is filled, very carefully, pouring slowly not to bruise a single specimen. Let it be a rule that every apple, however small, is to be picked, not beaten or shaken from the tree.

After the gathering for the day is over—it should be over before the dew begins to fall much—these piles, in the open air, should be covered with some covering—the best is good hay-caps of large size—for the night, and to remain on wet or lowery days. After lying a few days, the fruit will have dried off and become cool, when it should be put in barrels, headed up, and lifted into a wagon, and carried to the fruit-room or storehouse. Never allow the barrels to be rolled on their sides, as it is apt to bruise the fruit.

In packing the fruit in the barrels, it is done much nicer to take out the bottom head, spread a neat white paper over the inside of the other, and pack the apples in carefully and closely by hand; carefully rocking the barrel back and forth two or three times, as it is filled; fill to a little rounding, lay on the head, and gently press it into place with a lever or screw, drive the hoops, and fasten with three or four shingle-nails driven through the chime hoop into the head. If it is inconvenient to put the barrels under cover, and they are to remain out over night, lay them on their sides, piling them up carefully, and over the top put boards to cover.

Recollect, in marketing fruit, or in putting it up for the purpose, that fair, even packing, all good fruit, builds up an enviable reputation, which will pay better than any temporary advantage gained by "facing," or other unjustifiable means. All men are governed to a greater or less extent by appearance, and often the very appearance of an article in market sells it or

causes its rejection. We naturally suppose that if extra care has been used in preparing an article for market—packing it carefully in neat, clean packages, etc.—the article is worthy of it, and we act accordingly.

Pears, in the orchard, ripen at about the same time with the apples, and should be gathered as soon as they arrive at a fit state of maturity. As with the apples, a greater proportionate amount of care should be used in picking, sorting, handling, and barreling; pick into baskets, and carry at once to the fruit-room, and distribute according to variety, in heaps, on the shelves, or as past experience teaches is the best mode for keeping. Various modes are used for keeping fruit of different kinds, but the main requisite for apples and pears seems to resolve itself into the following: Perfect, well-matured fruit, put away in a dark, dry, cool room, and kept at a uniform low temperature; the nearer the freezing-point without actual freezing, the better it keeps.

The present month is the proper season for fall planting all kinds of hardy, deciduous trees, except stoned fruits. The old maxims can not be too often repeated: "Plant trees; don't buy of tree peddlers, but of known, reliable nurserymen; and prepare the soil well first, ere planting at all." Select, where practicable, from nurseries of similar soil to that to be planted on, and only such varieties as are hardy and likely to succeed with the care to be accorded them.

In selecting locations for new orchards, especially of apples, many points are to be looked at, one of which, too frequently overlooked, should receive more attention; we refer to selecting the highest, driest, coldest location, having a suitable soil, and then protecting the fruit from prevailing winds by wind-breaks. These high positions are the most favorable to good, thorough drainage, and security from untimely frosts; are subject to less extremes, or sudden transitions of temperature. The soil should be a healthy one, in order to secure a healthy, vital action to the trees. Excessive stimulation to growth should be avoided, as it tends to induce blight and disease, inviting the invasion of destructive insects, etc. Orchards wanting in vitality or health are frequently more subject to insect invasion than the more healthy. Excessive growth often prevents full maturity, inducing to summer-blight and winter-killing.

Trees transplanted should never be allowed to dry out, to become shrunken while out of the soil, in transportation, etc. All bruised or injured roots should be cut off smooth, while the top should be judiciously pruned and shortened in; remembering that a tree should be formed when young; for "just as the twig is bent, the tree's inclined."

Nurserymen will now appreciate the benefit of ample preparation for fall trade, in having every thing at hand to facilitate and expedite business, such as labels, stakes, packing material, etc. Too much care can not be used, in taking up and heeling in trees to supply orders, in avoiding injury to the tree or its roots, and in keeping sorts distinct. Never substitute another variety, unless so authorized, for any order; you will always give better satisfaction to let the order go without filling.

Manure and its judicious use is the secret of good crops of fruit, and the stimulating to rapid, vigorous growth of young trees; and recollect that you can not have it in abundance unless pains are taken to save and accumulate from every available source.

Collect tree and shrub seeds of all kinds as soon as they ripen, and plant, or keep in sand, or otherwise, according as their nature requires, to plant in spring.

Fruit-Garden.

THE past season has been a propitious one to the grower of most kinds of small fruits for abundant crops. Grapes are about the only variety of the small fruits that have seemed to suffer from the season, disease, etc.; these, we notice from reports from the West, are somewhat affected, in some locations, by rust, rot, and kindred diseases; but this affection is nothing like general.

We have seen on one or two places that the vines have been injured to some extent by something, we are not decided what; it appears on this year's growth something like a scar from the sting of an insect, only longer and more of it, unless the insects were numerous; some of the scars seem continuous from one to two inches in length, by from a line up to one fourth the circumference; in some cases it causes the death of the new growth. We have examined it, and others on whose grounds it appeared have watched, but could discover no visible cause which could be assigned for it.

Have we discovered the best mode for managing the vine? Our opinion is, we have more to learn than has been yet learned; that all varieties adapted to similar soils, etc., are to be treated alike, in pruning, culture, etc., we believe is far from true, or that the vine on different soils, and in our climate, can be successfully treated as on the European continent. We have much yet to learn of the influence that climate, soil, etc., exert over the growth and culture of fruit.

We have been trying to induce the roots of vines and trees to reach down into the ground, thinking that they might do better, bear more and better fruit; is this the correct method? Is it not better to keep the feeding roots nearer the surface, where they can be fed by surface applications, and feel the warmth and influence of the sun's rays, warm rains, etc.?

The quince, that too much neglected fruit which is made to take up with some out-of-the-way corner, should receive more and better attention in its culture and the preservation of its fruit. The tree occupies but little space, is hardy, and the fruit a superior one for the dessert, even when we have all the other summer fruits preserved in abundance; it fills a place that no other occupies. A well-matured quince-tree or bush given suitable attention will yield two or three bushels of fine fruit, which, when well harvested and properly marketed, will bring two dollars to four dollars per bushel. The great enemy of the quince-tree is the borer, and the young trees want frequent attention to keep them off. Mulching with coal-ashes is good, or protecting the trunk from the roots a few inches up with tea lead will usually ward off the borer. No fruit is more easily injured by careless harvesting than the quince; consequently the greatest care should be used in gathering, etc., after which they are barreled and treated as apples.

Lawn and Flower-Garden.

THE fall of the year and October suggests the time for improvements in old grounds, planning and planting of new. And what shall we say new of planting; is there any suggestion that we can make that will serve to develop taste? For, in taste and tact, we consider lie the whole secret of the art of planting and ornamenting lawns, pleasure-grounds, or ornamental gardens. True taste and native tact are rare qualities, and when found they will usually be combined in one and the same individual.

There are plenty of rules and plans laid down in the books for laying out and planting grounds, but without this native tact in arranging and adapting, they will be of but little avail to the novice; so we would say, study your grounds, and adapt your planting or planning to them; for every location has some points to be developed peculiar to itself.

If our rural, and, as to that, many of our city inhabitants, were to try and see what they could do toward ornamenting their dwellings and surroundings, and could be made to understand that ornamenting did not necessarily mean expense, they would be surprised how cheaply a little true taste could be developed, and how much pleasanter their surroundings could be made by the bare expenditure of a little time.

In ornamenting grounds, some regard must be paid to the demands of the day, not to make too great a departure from the best accepted taste, as we are told that "society makes certain fashions, and custom demands its votaries to conform thereto." Beauty, to be admired, must consist in conforming to the general good taste; and in planting trees, shrubs, etc., we are apt to select for admiration the rare, even if it may be less regularly beautiful than the more common, for the latter by being so common loses its attractions by its familiarity.

Beds emptied of their annuals, and bedding plants, may now be well manured, and have it well spaded in. Wherever sufficient flowers are left to make a pleasant show, pains should be taken to preserve their beauty as long as possible from the effects of frosts.

Finish planting bulbs for spring flowering, if any remain that were not planted last month. Give them good, generously rich soil, adapted to the variety, and, before the ground freezes, cover well with coarse manure.

Any perennials desired may be transplanted now without fear of injury, as they are well supplied with fibrous roots. No class of plants are more grateful for good care and kindness, although they may survive quite rough usage.

Dahlias, Gladiolus, Tuberoses, and all other plants requiring winter protection for their bulbs and roots, in the cellar, etc., should be taken up soon after having their foliage cut down by frosts. Leave the dahlias to dry a few hours, and then store away in the cellar, where they will keep safe from frost or dampness. Gladiolus and tuberoses should be well-dried, wrapped in papers, put in a box, and stored in a dry room where they will keep at as near a uniform temperature as possible.

Chrysanthemums, in flower, should be labeled as to name and color, against putting away for spring planting. Some plants may be potted to bloom in-doors; shade for a few days till they recover the effects of lifting, etc.

All our bedding-out plants should now be removed in-doors, or to pits. Some will be too large; such should have cuttings taken off and struck, if not already done.

Neatness and order are essential to the well-being of the flower-garden, and all signs of decay should be at once removed; the borders, beds, etc., be kept well trimmed, as neglect spoils the effects of the richest collection, while the observance often renders the most meagre collection beautiful.

Editorial Acknowledgments.

THE editor would return hearty acknowledgments to all patrons for the liberal advertising patronage bestowed this fall upon THE HORTICULTURIST, and he trusts it will continue during each succeeding season. The circulation of THE HORTICULTURIST has steadily increased since the 1st of January last, and the prospects for the future never have been finer. Every one has a word of encouragement. New subscribers are coming in freely, and clubs are forming in all parts of the country, which will restore THE HORTICULTURIST once more and permanently to its former position as the best and widest circulated journal of its kind in the United States. The editor would also present his acknowledgments to the gentlemen who have favored him with their catalogues. Many of them have been prepared at an expense of considerable time and money, and deserve an extended notice, which we will take pleasure in doing as soon as our crowded space can be relieved. We will mention a few of SPECIAL EXCELLENCE:

Catalogues, etc.

Descriptive Catalogue of Grape-Vines and Small Fruit. Finely illustrated. Isidor, Burt & Son, Bushberg, Mo.

Autumn Catalogue and Floral Guide. Tenth edition. 1869. New-York: B. K. Bliss & Sons.

Catalogue of Fruit-Trees. Catalogue of Ornamental Trees. Ellwanger & Barry, Rochester, N. Y.

Vick's Illustrated Catalogue of Hardy Bulbs. Rochester, N. Y.

Descriptive Catalogue of Ornamental Trees. W. & T. Smith, Geneva, N. Y.

Catalogue of Bulbs and Flower Roots. Henry A. Dreer, Philadelphia, Pa.

Catalogue Monroe Nurseries. J. Wentz, Rochester, N. Y.

Catalogue of Fruit and Ornamental Trees. Thompson & Adams, Brookfield, Mo.

Descriptive Catalogue of Nursery Stock. Dudley & Merrell, Geneva, N. Y.

Catalogue Ornamental Department. Graves, Selover, Willard & Co., Geneva, N. Y.

Descriptive Catalogue of Fruit and Ornamental Trees. C. F. Babcock, Summerfield, Ill.

Miscellaneous Catalogues Received.

Wholesale Catalogue. Mahlon Moon, Morrisville, Pa.

Catalogue of Fruit-Trees. A. D. Webb, Bowling Green, Ky.

Price-List; Fall, 1869. E. T. Field, Middletown, N. J.

Price-List of Grape-Vines. John Hazleton, Delaware, O.

Wholesale Catalogue Star Nurseries. Hargis & Sommer, Quincy, Ill.

Trade-List of Nursery Stock. Dudley & Merrell, Geneva, N. Y.

Wholesale Catalogue. J. Wentz, Rochester, N. Y.

Price-List of Fruits. E. J. Evans & Co., York, Pa.

Price-List; Fall, 1869. Quaker Valley Nurseries, Winona, O.

Price-List of Grape-Vines. E. A. Riehl, Alton, Ill.

Wholesale Trade-List. T. C. Maxwell & Bros., Geneva, N. Y.

Price-List of Grape-Vines. T. S. Hubbard & Co., Fredonia, N. Y.

Trade Catalogue of Bulbs. J. M. Thorburn & Co., New-York.

Circular of Black-Cap Raspberries. Warren Wight, Waterloo, N. Y.

Circular of Black-Cap Raspberries. Joseph Sinton, Angola, N. Y.

Catalogue of Green-House Plants. John Codness, Flushing, L. I.

Catalogue of Fruits, etc. William Watson, Brenham, Texas.

Circular of Apples. S. B. Marshall, Cleveland, O.

Trade-List; Autumn, 1869. Gould Bros., Rochester, N. Y.

Wholesale Catalogue and Trade-List. Gould Bros., Rochester, N. Y.

Catalogue of Small Fruits. James Draper, Worcester, Mass.

Catalogue of Fruit and Ornamental Trees. P. J. Berckmans, Augusta, Ga.

Wholesale Trade-List. E. Moody & Sons, Lockport, N. Y.

Wholesale Circular. Robert J. Halliday, Baltimore, Md.

Grape-Vines and Small Fruits. Pffner & Marquardt, Delaware, Ohio.

Price-List of Trees and Plants. Charles Black, Hightstown, N. J.

Wholesale Trade-List. W. & T. Smith, Geneva, N. J.

Descriptive Catalogue. Thompson & Adams, Brookfield, Wis.

Wholesale Trade-List. W. F. Heike's Nurseries, Dayton, Ohio.

Wholesale Trade-List. Nicholas & Newson, Geneva, N. Y.

Catalogue and Price-List. J. W. Manning, Reading, Mass.

Descriptive Catalogue of Fruits. Descriptive Catalogue of Ornamental Trees. W. & T. Smith, Geneva, N. Y.

Trade-List; Autumn, 1869. Hoopes Bros. & Thomas, Westchester, Pa.

Circulars and Price-Lists. American Basket Co., New-Britain, Ct.

Retail and Descriptive Catalogue of Small Fruits. John Knox, Pittsburg, Pa.

Wholesale Catalogue. Robert Douglass & Son, Waukegan, Ill.

Davison's Thornless Raspberry. Joseph Sinton, Angola, N. Y.



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Vineland as a Reality.

AN EDITORIAL VISIT.

PERHAPS no new settlement in its time has attracted so much attention as Vineland; and it is equally certain that of no other settlement have so many contrary reports been made, eliciting extravagant praise on the one hand, and persistent prejudice on the other.

Eight years have now passed since it was projected, and that time is certainly amply sufficient to solve the problem, and demonstrate whether it possesses the elements of success or not. The first heats of enthusiasm having passed, candid observers are taking a more careful look at the experiences which have followed.

During the sessions of the American Pomological Society last September, at Philadelphia, we visited Vineland, attended both of its fairs, and, unaccompanied by agents or other interested parties, made a tour of the tract, and gained a fair and unprejudiced impression of the land, the people, the real capabilities, and the future prospects.

Judging from the journals which emanate from there, giving full and overflowing accounts of great possibilities, and the prosperity that comes from a large and dense population, we expected to behold a gem of a village, with hundreds of neat cottages embowered among trees and shrubbery, flowers and climbing vines, while the acres around were to be teeming with beds of fruits, trees, or vegetables with every sign of healthy and successful growth.

We are disappointed in the reality. With the exception of a few houses on the principal streets and within a mile of the depot, we see little or no evidences of architectural beauty; most of the houses are cheap wooden structures, hardly exceeding in value a cost of \$1000; while the absence of fences, lawns, and rural cottage improvements imparts a bare and unfinished look to the entire settlement.

It may have been a wise policy, on the score of economy, to dispense with all fences, yet we are among those who believe fences are among the most useful and beautiful of all embellishments, and Vineland *with* them would be one hundred per cent more attractive than *without* them.

There are but two good streets that seem an approximation to the idea of village beauty, namely, Landis avenue, and the one immediately south of it. Upon these two are some very neat cottages and a few even elegant mansions. But at a distance of a mile or two from the centre, we find the residences scattered in the midst of wild land, grown up with oak, bramble, or bushes, and only partially cleared.

In conversation with the people here and there, we are surprised to find a general spirit of discontent and a feeling of uncertainty for the future. We were prepared to hear both

sides of the question, enthusiasm and doleful complaints of distress. We find the latter spirit stronger than the former.

A majority of those who have attempted the improvement of their lands have found them not so cheap after all, and by the time the soil is in a tillable condition, well manured, it has cost as much as good strong land can be bought for anywhere else, namely, \$100 per acre, and there are very few but would be glad to sell out and realize original cost. Upon that famous tract of land, fifteen miles square, we are credibly informed there are to-day 700 *farms for sale*, and the three or more newspapers of Vineland, with their *columns full* of "desirable places" for sale, only confirm the truth of the assertion.

Thousands have come there expecting to realize handsome returns in the produce of their strawberry-beds, and have concentrated all their capital and labor upon their cultivation, only to find it a treacherous dependence, and to meet with almost irrecoverable losses and utter dejection. Their experience demonstrates that *the culture of small fruits in Vineland is not a success*.

One gentleman, who lived in Vineland three years, and was fortunate in selling out and returning home to his native town in New-England, said in a merry kind of a way, "*The first year we sold nothing; the second year, we sold enough to pay for our berry-baskets; the third year, we sold the farm.*"

Another pitiable case came to our notice, where the disappointment in the returns of last year and this year were so great that, being unable to sell the farm, the family also unable to get adequate support, the wife with her child was obliged to return to her friends in New-England to live among them and obtain the comforts of a home, while the husband is working to-day as a day laborer at any jobs he can procure.

Our acquaintance with the markets here and our tour of observation over the tract enable us to give a few reasons why small fruit culture there has proved so unprofitable.

1st. The character of the soil and its natural fertility have been too greatly exaggerated. There is no doubt that the soil has a certain kind of fertility which is capable of growing some crops without much attention. But it has no *permanent* fertility, and it is the most expensive of all lands to keep in highest producing condition.

The soil is of a gravelly, sandy loam, very leachy, very porous, and utterly without *vegetable mould*. Strawberries can not be successfully grown for any series of years upon any land deficient in vegetable matter. Mineral elements are valuable in the growth of trees, but smaller crops need higher conditions of cultivation.

2d. Another cause of failure has been the want of care in the protection and cultivation of the strawberry-beds. During our entire trip, we did not see but one bed *mulched*; and that looked very fine, showing the effects of good treatment. It seems to be difficult to obtain good manures; few manufacture enough for their own use, and large numbers keep no cattle at all. For fertilizing material, they have to depend upon marl or muck, or else nothing at all is used.

3d. The major part of the strawberry plants are grown upon the clear soil, which, reflecting the sun, burns the berries, and, as many dealers can testify, on arrival in market the fruit has turned black, or begun to wither and rot. The fruit is fairly scalded.

4th. Another characteristic of Vineland strawberries is, that they are *gritty*, being allowed to hang over and touch the sand or earth.

5th. The fruit ripens at a time when nearly all berries from South-Jersey, West-Jersey, Delaware, and Pennsylvania are beginning to pour into market in immense quantities, and prices are reduced to a very low figure.

6th. In years past the largest portion of the fruit arrived in market unassorted, in cheap, tight gift boxes, poor crates, and of course in poor order. Although this has been greatly remedied the present year, and better fruit came in better order, yet the dealers generally have become so prejudiced it is difficult to induce them to receive consignments from Vineland and do them justice.

If the dealers feel no interest in the fruit, the interests of the grower must suffer. All dealers rejoice in good fruit, and do their best for it; but a prejudice once formed is rarely or never overcome. The prejudice of the dealers against Vineland fruit seems to be very deeply seated.

7th. Irregularity of trains and high prices of freight have operated also unfavorably.

Counting, then, all these difficulties of marketing and unfortunate seasons, year after year, we find the statement amply sustained, *that small fruit culture there is not successful.*

Hundreds of acres devoted to strawberries have been plowed up, and the lands are either lying idle now or devoted to some other purpose.

From what we have seen of sweet potatoes, we should say these would yield more profit on Vineland soil, as a constant crop, than strawberries.

Raspberries do not seem to be largely cultivated, and, save the Clark, are not thrifty in growth; the soil is not heavy enough, and the sun and light soil are fatal to the nicer varieties. Some plantations of black-caps have, however, done fairly, not over an average of 1500 quarts per acre.

The *Blackberry* plantations, as a rule, look sickly and diseased; growth is poor, produce light, and too often the ground is not well cleared and cultivated. There is many a blackberry field we saw grass-grown, and leaves almost dead. Some farms, either too sterile or too poorly tended, were such an abject sight that we almost felt the tears start in pity for "*one more unfortunate*" so misguided.

Some of the oldest and most sagacious settlers, finding the culture of small fruits, several years ago, looking unpromising, began to devote their attention to pears and grapes.

The grape has proved a success. We are happy to acknowledge it. The Concord is especially healthy, vigorous, and fruitful, and yields fine clusters.

Other varieties, Rogers No. 4, Ives, and Rogers No. 15, are very fine, and we think there is room for great encouragement in the growth of the grape. It seems to be the surest of the fruits yet cultivated, and most steadily remunerative.

A vineyard is an element of natural beauty, and in the formation of a small farm the vineyard forms the most attractive portion. We noticed quite a number of places which with the vineyards seemed pleasant; without them, they would have appeared bleak and sterile.

Dwarf pears have been tried, and some very creditable specimens of fruit and trees are shown. Vineland pears, particularly Duchesse, are very large and attractive, and the trees seem to bear early and abundantly. Standard pears grow with great thrift, and mature their wood well. The soil seems to prove congenial to their success, and, next to the grape, the pear seems most promising in future results.

We are afraid the soil will not prove of permanent richness, even with the pear; and after living several years until time of fruiting, the tree will find many necessary elements exhausted, and require heavy manuring to keep up successful production. Even as it is, we find pear-growers lose largely from the *dropping of the fruit*.

Peach orchards have been generally planted, and this year have yielded fair crops; while young, the trees are thrifty and bear good fruit; but they do not bear the prospects of living to a "*good old age*." Dealers tell us that the fruit this year was small, and only second quality. We saw numerous instances of trees seven or eight years of age, and even younger, turning yellow and dying off rapidly. Peach orchards will hardly prove a permanent investment.

Cherries have been tried; but, except when grown as *shade-trees*, and the roots are protected by grass, they have not exhibited a healthy growth or been found profitable.

Vegetables have been tried, but not found uniformly profitable. The tomatoes, as a field crop, are very small; but grown in gardens, with generous care, they are of good dimensions.

The plan for the settlement of Vineland was a good one. Although it was a speculation for the benefit of one person, yet some public good was intended to be accomplished. The land was believed to be poor; and Mr. Landis believed it was capable of better things than lying as a mere barren waste, and has endeavored to demonstrate its value.

His ideas were to rear up a happy, industrious, contented community, with gardening for a pursuit, pleasant social privileges, and freedom from many of the curses which throng around so many of our large country towns, namely, intoxicating liquors, horse races, and gambling.

As far as this is concerned, Vineland is all that is claimed for it. Its social privileges are excellent, its avenues are pleasant drives, its people are intelligent and temperate, the climate is fine, and in many points it is a desirable location for any one *with means* to enjoy a nice, quiet, contented life; but as far as the hopes and anticipations of the settlers have reached realization, *it has not proved a spot for accumulating either a fortune or a reliable livelihood in gardening and fruit culture.*

It commenced its existence in a time of war, when all kinds of produce rapidly advanced to extraordinary prices, and small fruits were not so generally cultivated as now; gardening then in Vineland was remunerative, and the little onion or strawberry patch could show good figures; but now in time of peace, with all farm products reduced in value, with production doubled in quantity, the incomes expected are not realized, and the poor (for there are many there) have to suffer.

Let any one curious to learn the inner history of Vineland take up one of their papers, and look at the two-column list of properties attached by the sheriff for failure to pay taxes. (some as low as \$2;) then select any one of the delinquents, go and converse with him, and the searcher after truth will find genuine sorrow and poverty.

The failure of these men was in too high anticipation and too small a capital. They can not get away, they have not earned a livelihood, and yet must stay far from contented. Not a single instance has yet come to light, upon the tract of ten thousand inhabitants, of uniform success, year after year, in the cultivation of garden products; occasional reports of proceeds from a single crop of an acre or less are frequent, but they do not represent the average over a large area.

In leaving Vineland, we hope for better things. With a *good soil*, it would have proved a monument of energy. It may yet prove a brilliant success. We do not judge it harshly, but report facts as they are. As a beautiful place of *residence*, it can be recommended safely to all who desire to escape from the chilling winds and tedious snows of more rigorous latitudes. Its real excellence is its climate, not its soil.

The Seneca Black-Cap Raspberry.

OF all the black-caps thus far cultivated and tested, we find the Seneca one of the best. In flavor it is of the finest character, berries of very large size, fine color, and plants very hardy, vigorous, and productive. It ripens later than all the rest; in some localities, even after Mammoth Cluster, and seems in every way very desirable for family culture. For market purposes, its productiveness will cause it to rank among the first of all late-bearing varieties.

It would be well for all families throughout the country who experience difficulty in cultivating the red raspberries, to take up with some of the finer kinds of black-caps. No fruit is healthier, and they form, to those who like them, an equally delicious dish to any other fruit used on the tea-table.

The Rubicon Apple.

SINCE my article in the July number, with description of this apple, I have received a letter from our mutual friend Charles Downing, in which he draws my attention to the fact that he had received what he thought to be the same fruit, under the synonym of Pawpaw, Western Baldwin, and Ball apple, and thought that, without the synonym accompanying the "Rubicon" at all times, some might be led to suppose it a distinct fruit, and, having the one, might buy the other also. I willingly and very gladly make this addition to my description as published in July.

But now comes the September number of THE HORTICULTURIST, in which one "Mr. B." thinks it "a very common vice" which we scribblers for the press are apt to indulge in, namely, "overpraising of new fruits," and doubts if "the good character thus given to it" (the Rubicon) will or can be supported, and goes on to give some reasons for thus founding his opinion; but in the same clause in which he condemns it he also expresses a hope or possibility of better success on light soils; and further on says, "It has a local reputation on the sand, or soils comparatively light." What more do we want? Does Mr. B. suppose that we all live on "strong clay loams," or because we are on the sand we have no use for a good apple? But to learn further of its merits, I wrote to Messrs. Bross & Potter, of Kalamazoo, Mich., for something of its history and quality, to see what amount of value was placed upon it at home. They write me: "We think a great deal of the Rubicon, and are cultivating it



The Seneca Black-Cap Raspberry.

quite largely. The apples, taken together, are a lively bright red; have seen specimens that were dark. The present tree came from seed twenty-three to twenty-five years ago, and has borne fruit regularly since it came to maturity. We commenced propagating it in 1859, and have had a market for the trees at home. Can't see how Mr. Downing could call it streaked. In Western Michigan it is *good*. Should it prove hardy enough for Illinois and Wisconsin, it will be valuable indeed. It is quite well known in Van Buren Co., Mich., but outside of that county it has not been disseminated." Thus it seems that the Rubicon is not without honor even in its own country, and I am yet inclined to the opinion that it will sustain the good character I have previously given it. Mr. B. will please remember hereafter, as he writes with such "grave latitude of speech," that we do not all raise Baldwins, Greenings, or Canadas; indeed, it's so long since we saw one of these growing in Wisconsin, it would trouble us to tell how they looked on the tree; for we will guarantee there are not a dozen healthy trees of either of the sorts, and much doubt if there is of them in the aggregate to be found in Wisconsin. But we do grow such favorite sorts as Sops of Wine, Fall Stripe or Saxton, St. Lawrence, Perry Russet, Willow Twig, Cider, Yellow Bellflower, Red Astrachan, Duchess of Oldenburg, Fameuse or Snow, Tallman Sweet, Golden Russet, Westfield, Seekno further, etc., and expect to add to this catalogue the Rubicon, as soon as experience warrants it.

This is a portion of the list as grown by our Western nurserymen, many of whom are now turning their attention to some new Russian sorts for something even more hardy than they yet have on their list.

O. S. WILLEY.

September, 1869.

Essay on the Plum.

Read before the Illinois Horticultural Society.

BY L. C. FRANCIS, SPRINGFIELD, ILL.

I SHALL endeavor in this essay to be brief but practical, giving largely the results of my own experience, which may perhaps be a sufficient apology for the frequent use of the pronoun I.

Downing, in his *Fruit and Fruit Trees of America*, describes three species of plums indigenous to the country.

1. The Chickasaw. This species grows very plentifully in our river-bottoms. It is generally known as the Sloe.* The tree, as well as fruit, is quite distinct from the common wild plum. The leaves of the former have a delicacy of texture, which, with their shape, somewhat resembling that of the peach, makes it very easy to distinguish its form from the common wild plum's. The fruit is also less affected by the sting of the curculio.

2. Wild red or yellow plum. This is the wild plum so common in our woods.

3. The beach or sand plum, a low shrub with stout, straggling branches, found mostly on the sandy sea-coasts from Massachusetts to Virginia, and seldom ripening elsewhere.

Propagation.

The seeds of the Chickasaw and common wild both make good stocks. Though my preference is the Chickasaw, I have not been able to detect any difference, either in vigor or in hardiness, in trees grown on either of them. The seeds should be planted as soon as gathered, or put away in boxes with alternate layers of sand or earth, and planted in the spring. They should be kept somewhat moist, so as to germinate readily. My own practice is to sow very thick in drills a foot apart, and transplant into nursery rows, when trees have attained a height of two or three inches, choosing a moist day for the operation. By this means, the trees are not crowded as in the seed-bed, and, with good cultivation, are suitable for budding in the fall. I have sometimes failed to have pits germinate the first spring,

* Quite a discussion sprung up, after the reading of the essay, upon the statement that the Sloe was the same as the Chickasaw, but without coming to any positive decision. The latter is said to ripen early, while the former is in season about the same time or perhaps a little later than the common *P. Americana*. The identity of the two will be tested during the season. The Miner has every appearance of being a large variety of the Sloe.

and find that others have the same experience. Budding should be done, if the trees are large enough, the first season. The last week of July and the first two weeks of August is, perhaps, the best time to bud, though I have had excellent success the last week in August, and have had also very poor a week earlier. The yearling trees, if large enough, may be whip or tongue-grafted earlier in the spring, or cleft-grafted the second spring. It is advisable to work as close to the ground as possible, so that roots may be thrown out above the graft. To insure the best success, it is necessary to graft before the buds have started, or just when the buds commence swelling.

Planting.

The trees are fit to set the first or second year from the bud or graft. The ground for a plum orchard should be rolling, or plowed, so as to run the water off readily. A moderately rich soil is probably best for the plum, though there are some varieties (the *Diapré rouge*, for one) that will literally bear themselves to death in a rich soil.

The Imperial Gage is a spare bearer with us on a rich soil, though yielding bountifully on our oak barrens.

Fifteen feet apart is perhaps a proper distance to plant in an orchard. It is true that the *Diapré rouge* would be better accommodated at eighteen or twenty feet. But the Duane's Purple really needs but ten or twelve, while the Imperial will just about occupy the fifteen feet. But in order to work the curculio-catcher successfully, fifteen feet is none too much.

Varieties.

There are a great many varieties described in our fruit-books. I shall only speak of those I have had experience with.

First of all is the *Diapré Rouge*. We have fruited it for nearly ten years, and find that it possesses more good qualities than any variety we are acquainted with, though it is not as rich a plum as some. It is a prodigious bearer of very large, handsome fruit, of good quality. It requires thinning in order to produce the largest fruit. It is hardy; grows thriftily upon our rich prairie soil.

We are indebted to Dr. Kennicott for this variety. He, being unable to supply a variety ordered, substituted the *Diapré Rouge*, with a high commendation of its qualities, and we have never regretted it.

Duane's Purple is a more showy plum, and will bring a higher price in the market. It bears well, but the fruit is apt to rot on the tree. It is a profitable variety, but it is such an upright grower that it takes about three trees to bear the fruit that one of *Diapré Rouge* will. However, it has this advantage: it needs no propping to prevent branches breaking with weight of fruit.

Imperial Gage is a sweeter, richer plum than either of the others. As a tree, we think it not quite as hardy, and needs a poorer soil than we have fruited it on, to be an abundant bearer.

Red Gage is earlier than either of the preceding, and proves a good bearer with us, though rather small. Still, its fine flavor makes it very salable in the market.

Smith's Orleans has not done very well with us. Perhaps on a poorer soil it may prove better.

German Prune has proved tender, though the fruit is No. 1 for flavor.

We have fruited other varieties, such as the Nectarine, Yellow Egg, Prince's Damson, and Hanford's Orleans, but are not propagating from any but the Nectarine, with which we are well pleased.

Pruning and Cultivation.

We prune but little, and that while the tree is young, starting the head about four feet from the ground. Cultivate the same as with the apple. It is an excellent plan in our rich prairie soil, after the first year, to practice sowing oats among the trees in July. This checks their rank growth, causing them to mature their wood early, and thus be in better condition for wintering.

Diseases.

There are but two or three diseases to which the plum is liable. The black wart has not proved very troublesome in the West, though it is frequently met with. Occasionally

we find it on our own trees, but by cutting off the affected limbs, and burning them, the disease does not increase. The fruit rot is occasionally troublesome. It is sometimes, if not generally, confined to varieties. The *Diapré Rouge* is seldom troubled, while the *Duane's Purple*, in some seasons, is very seriously affected. Thinning the fruit, so as not to let them touch each other, is a partial remedy. The plum is frequently injured, more or less, by the winter. Sometimes the tree is killed outright, but more generally it is thrown into a diseased and sickly condition.

The abundant vegetable matter in our rich prairie soil causes an excessive growth in the latter part of the season, unfitting the tree for the sudden changes of temperature our winters subject them to. The sowing of oats, as before mentioned, will remedy this to some extent.

Screens of evergreens or deciduous trees are also beneficial.

Insects.

Like the apple and the peach, the plum is troubled with a borer, and, what is a little singular, this fact is not mentioned in any of our fruit-books. It is quite troublesome with us.

I have suspected that it might be identical with the peach-borer, but will leave this for entomologists to decide.

(Dr. Walsh, being present, was interrogated in the matter. He said it was the same.)

It is also troubled with a trunk-borer—the same, I suppose, that attacks the apple, the elm, soft-maple, and other trees. Recently transplanted and unthrifty trees are generally the only ones troubled.

The canker-worm seems to be nearly as much at home on the plum as on the apple, and has been very troublesome with us.

The caterpillar is frequently found on the plum.

The leaf-roller also is perfectly at home there.

Last, but not least, are the *curculio* and *plum-gouger*. These have been so thoroughly described by Dr. Walsh, in his first annual report of the acting State Entomologist, that it would be superfluous to describe them in this essay, merely mentioning that while the larva of the former lives upon the fruit, that of the latter lives upon the kernel inside of the shell.

Remedies and Results.

Remedies, offensive and defensive, have been proposed.

First, in the offensive department, I will give the *New-York Observer's* great *curculio* remedy.

To one pound of whale-oil soap add four ounces of sulphur; mix thoroughly and dissolve in twelve gallons of water. Take half a peck of quick-lime, and, when well slacked, add four gallons of water, and stir well together. When well settled and clear, pour off the transparent liquid and add it to the soap and water mixture. To this mixture add four gallons of strong tobacco-water. Apply this compound, when thus incorporated, with a garden syringe to your plum or other fruit-trees, so as to drench all parts of the foliage. If no rains succeed for three weeks, one application will be sufficient. If washed by rains, it should be renewed.

The receipt was effectual in raising, not plums, but the price of whale-oil soap, from one dollar and fifty cents per hundred pounds, one year, to six dollars the next. [Laughter.] We tried it faithfully upon a portion of our orchard, and finding the *curculio* had misunderstood the object of the syringing, [laughter,] or was obstinate and wouldn't take the hint, we fitted up a *curculio-catcher*, similar to Dr. Hull's, and invariably caught as many *curculios* from the trees that were syringed as from those that were not.

Gas-tar has been recommended, but it is utterly worthless for this purpose. Indeed, a gentleman informed me that he had tried the strongest smelling substance to be obtained at the gas-works—so strong that his neighbors complained of it as a nuisance—but without any effect.

Coal-oil is also recommended, but as it will not drive off lice from cattle, it is doubtful whether it will drive the *curculio* from the plum-trees.

Among the defensive remedies, cotton batting tied around the trunk of the tree has been recommended, in entire ignorance of the fact that the curculio has wings and flies readily.

Common salt has been suggested. After smoothing the ground and packing hard, the salt is to be spread a quarter of an inch thick as far as the branches extend. I have seen no report from any one who has tried it, but would suppose from the fact that the curculio will fly half a mile or more, the remedy would have to be extensively applied to be any thing more than partially successful.

Hogs running in an orchard while the plums are falling, is, from the fact above mentioned, also only a partial remedy.

But after all that has been said, the only reliable plan of fighting the "little Turk" is the jarring plan. Knock the rascals down on a sheet spread under the tree, and pinch their heads off. Dr. Hull's curculio-catcher is an admirable contrivance for doing this speedily and effectually. It has been suggested that if the "umbrella plan" was carried out more closely, it might be an advantage. A jointed handle, or a handle that could be inserted so as to fold up the sheet from the barrow, would make it more convenient for passing through gates, and also storing away when not needed. In conclusion, I would say, whoever would be a successful plum-grower must exercise the persevering, unconditional-surrender spirit of our President-elect, and fight it out on this line, (the jarring and sheet process,) if it takes all summer.

Weeping Elms.

BY THOMAS RIVERS, IN "GARDENER'S CHRONICLE."

I HAVE the pleasure of looking from my bedroom window on to my lawn, of rather considerable extent, sloping gently to the south-west, (well sheltered by my neighbor's plantation of nearly a century's growth,) and sprinkled with ornamental trees of my own planting. My attention for two or three weeks past has been drawn to weeping elms; their foliage is so abundant, and their habits so varying and graceful.

The most wildly picturesque of this group of trees is the old variety, *ulmus montana pendula*, the weeping Scotch elm; this, with its large deep green leaves, is very imposing and effective. Its congener is the Scampston weeping elm, a variety of *ulmus montana*, but much more pendulous than the first-named; its branches, covered with grand foliage, seem to rush downward perpendicularly, and a tree soon forms a dense circular arbor.

Ulmus rugosa pendula seems to be a hybrid between *U. montana* and *glabra*; its leaves are not so large as those of *U. montana*, but are of the same dark green and rugose nature. This is a very graceful pendulous tree. My specimen is about thirty years old and thirty feet in height. On the opposite side of the lawn, and some thirty or forty yards distant, is a very fine specimen of *ulmus glabra pendula*. This variety I imported from France many years since. My specimen is from thirty to forty feet in height, and every shoot more or less pendulous. This tree, like the preceding, is very graceful.

My next favorite weeping elm is a lady among the elms, so delicate and graceful is its foliage and habit. It is from America, and was sent over as *U. americana pendula*, although it is said by my American friends not to merit the specific name of *pendula* more than the elms commonly planted in the New-England towns and villages, as they are all pendulous.

My friend, the lamented A. J. Downing, when on a visit here some years ago, aroused my country pride by persisting that the American elms were more gracefully pendulous than our Hertfordshire elms, (*U. glabra*), even after I had shown him those to the south of the Roydon station, Great Eastern Railway, which are very beautiful trees. It is only within these few years that I have given way, and I now believe the American weeping elm to be the most beautiful and graceful of weeping trees, so different from the lumpish, ungraceful nature of the weeping sophora or weeping ash. My American weeping elm is some fifteen years old, and rather small of its age, (not more than fifteen feet high,) as it sustained a grievous check in being removed from where it was established to its present quarters in the centre of my lawn. From the size and roughness of its leaves, one would think

it related to *U. montana*, but their color is such a delicate green—quite *sui generis*—and they hang on the shoots as if they were placed there by a fairy hand, and in a gentle breeze they flutter as if some young lady fairies were exercising their fingers among them. The tree is really charming.

It is very remarkable that the American elms, or at least the kind I have, will not succeed when grafted on our English elms. Scions from my tree have been grafted on the Scotch elm, (*U. montana*), the stock usually employed in nurseries, and on the variety of *Ulmus glabra*, called the Huntingdon elm, to which, to judge by its light green leaves, it has some relationship. Still it will not unite to its cis-Atlantic cousins, and even when grafted by approach (inarched) on standards of the last-mentioned kind, and suffered to remain from March, when they were grafted, till the spring following, all the scions died when detached.

There is yet another weeping elm deserving of mention, *Ulmus microphylla pendula*; its leaves are rather smaller than those of the weeping birch; it is not quite so graceful as that lady-like tree, but, owing to its dark, dense foliage, it forms a very distinct picture. My tree is probably the oldest and largest in England, and is now about fifteen feet in height.

There is, perhaps, no family of trees that varies to such an extent as the elm; there are probably but two species, both of them bearing seed freely, namely, *ulmus montana*, which rarely varies to any great extent, and *ulmus glabra*, [*campestris*?] the varieties of which are endless. I can not help mentioning two very remarkable varieties, one from the last-named species, called *ulmus pyramidalis*; this has deep glossy green leaves, and grows more closely pyramidal than the Lombardy poplar; it is of French origin, and very curious. The other is a sort received some thirty odd years ago from a Mr. Smith, a Scotch botanist, who was very industrious in collecting varieties of British plants. He sent this elm to me under the name of *ulmus montana pumila*. My tree is, I think, thirty-six years old, and it is just thirty-six inches in height. Nothing can show more forcibly than this tree the control of the graft over the stock; for it is growing near my specimen of *ulmus glabra*, and is grafted on the same kind of stock, *ulmus montana*. One is in round numbers thirty-six feet, and the other thirty-six inches, in height; both are as nearly as possible of the same age.

Diverging from elms, I can not pass over one of our most magnificent pendulous trees, the weeping lime, *tilia alba pendula*. My tree is about twenty years old; it formerly stood near my house, but its rapid growth and grand foliage encroached too much on the space allotted to it, so about ten years since it was removed to its present site; it was a great shock, from which it is only just recovering. This kind of lime blossoms a fortnight after the common lime, and fills the air with its unique fragrance.

Small Fruits in Kentucky.

EDITOR HORTICULTURIST: Having, for the past half-dozen years or more, been an amateur culturist of small fruits in Central Kentucky, and having cultivated many of the old, tried varieties, and a considerable number of the new kinds, I believe I can now say which are suited to a Kentucky climate. Among the decided failures in the strawberry line we place Mr. Knox's Jucunda and the far-famed Agriculturist and the Triomphe de Gand. These three literally burn up under our summer sun, and give but a poor yield of insipid fruit. Among the varieties that succeed well, we name (of course) Wilson's Albany—for where is the place that it is not a success?—the Charles Downing, Colfax, Green Prolific, Downer, French, and Barnes. These do well, so far as tried, all over Central and Northern Kentucky. My system of cultivation is in hills and rows, although I have tried all methods, including the "slip-shod" and "let 'em rip," and these kinds do well under all kinds of treatment, but far better under hill and matted row. Treated in this way, they yield enormous crops of luscious berries, and will amply repay all time and labor used in such a system of culture. Plant in rows a foot and a half apart, with the rows two and a half feet wide, clip off all runners and cut down weeds and grass, *mulch in winter*, and you may depend upon a fine crop.

Raspberries, with the single exception of Brinckle's Orange, stand our winters without any protection. They all stand our summers except the Kirtland, which scalds so badly as to produce only about a third of a crop. Doolittle is fine, and the Antwerp family (except Hudson River) do moderately only. The entire black-cap family—especially Doolittle, Mammoth Cluster, Davison's Thornless—Seneca, Miami, and wild black, all give abundant yields. The Purple Cane also, which is to the raspberry family what the Wilson's Albany is to the strawberry family, gives a fine yield of good family fruit; but far too soft for market. The Houghton Gooseberry is the *ne plus ultra* of that class of fruit. Tremendous yields of excellent fruit *every* year is her contribution for moderate culture. The Versailles currant is the best of all.

In the blackberry line but little is done, as *all our* waste fields produce the finest of fruit in *unlimited quantities*; but if I were intending to plant this fruit, I should only obtain the Wilson's Early and Kittatinny.

We find here that, if we would receive the best results in the culture of small fruits, we *must mulch* both summer and winter, and *stir the soil well* after fruiting season is over. Leaves, straw, sorghum, bagassa, and spent tan-bark are the best mulching materials. In our next we may have something to say about our larger fruits. WOODMAN.

STANFORD, KY., Oct. 1869.

Raspberry Culture.

BY HENRY THACKER, HORTICULTURIST, ONEIDA, N. Y.

OUR method has been to set the plants in rows, six feet apart one way, and from three feet to three and a half the other, on good land which, if previously well manured, so much the better; though in cases where manure is scarce, good crops may be realized from ground in an ordinary state of fertility; but like most other crops, proper manuring will always be found to pay well.

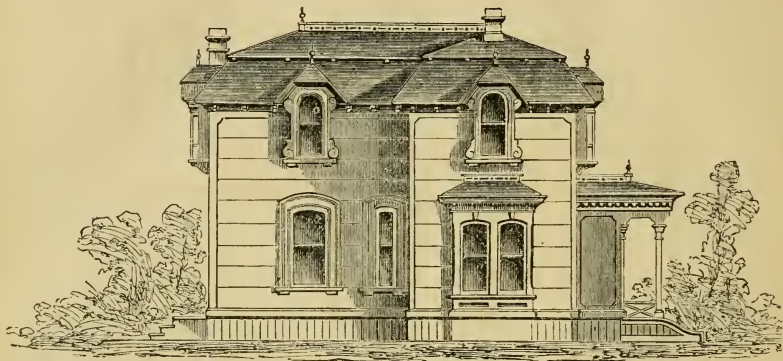
After the plants are set out, the ground is kept thoroughly cultivated, until prevented by the running of the vines, when they should no longer be worked among, but allowed to strike root, (which they will readily do, if not disturbed,) in order to furnish a future supply of plants. The second year after setting, we expect the plants, if they have done well, to bear half a full crop.

Some cultivators manage to get along without staking and tying up the vines, but thus far we have not succeeded satisfactorily without supports of some kind; especially during the first crop, when the vines are low and trailing, we find that a larger amount of fruit is obtained, in better condition, and freer from dirt, when stakes are used. Mulching, however, would operate to keep the berries clean; but during the second year's bearing, when the plants become loaded with foliage and fruit, the stools are liable to be tipped over, or broken down by the violence of storms; thus destroying, perhaps, much fruit, and also obstructing the passage of the horse and cultivator.

We sometimes use stakes, and a single wire. We drive short stakes into the ground, once in thirty feet, saw them off two feet above the ground, and fasten one end of the wire to a hub driven firmly into the earth. This wire is stretched the whole length of the row, and fastened on top of the stakes by means of wire staples, the end being secured in the same manner as the first. The ends of the vines are then gathered up and tied together in one place on the wire, half-way between the stools, where, during the gathering of the fruit, the growth of the new canes is not interfered with. When the new canes have reached a few inches above the wire, their growth is stopped by pinching off the ends, which operation causes them to branch just above the wires, thus giving room to tie the stool to the wire below the branches, and allowing them to retain their natural position. These form the stools which are to bear the future crop, and are now allowed to finish their growth without further interruption. By the use of wire, the first cost perhaps will be greater than when stakes alone are used; but in the end it will be found the cheaper method, as the wire will last many years, and may be moved as occasion requires.

In case the new canes which spring forth, and which are to bear the second year's crop,

need thinning, the weaker ones should be broken out in early growth, in order to give those which remain a better chance. Allowing that the second year's crop is to be the last, no new canes should be allowed to grow during that season, but should be broken away in order to give those in bearing the full strength of the root, which, as we often proved, tends very much to increase the size, and consequently the amount of fruit. After this manner we shall expect to get nearly, or quite as much, in two years, as in the ordinary way we gather in three, and all large and first quality berries.



Design of a Rural French Cottage.

WE present this month a design for a suburban cottage in the French style of architecture, which combines great taste with utility and convenience.

The novel form of the roof, the jutting out of the windows, and the opportunity for architectural ornament, both by railing on the top and ornaments under the eaves, seem to afford space for producing a cottage of highly agreeable appearance. The effect would be still more strong if the exterior were well painted in warm cream color with trimmings of darker shade.

By referring to the plans on an accompanying page, it will be seen that the rooms are arranged with a view to greatest ease, comfort, and least passing to and fro. The kitchen is in the L of the building, entirely shut off from the parlor or living-room, and yet communicating with the latter through a closet with a blind-window, that can be opened and closed at pleasure.

The position of all three rooms on the ground floor affords opportunity for obtaining an abundance of light, with good views to the side, front, or rear, and easy passage to the stairs. A furnace in the basement can be easily placed to heat all the rooms in both stories at once, or the luxury of a grate-fire can be indulged in, with little or no inconvenience.

The porch possesses a novelty in containing the only available closet-room on the first floor, built into the sides of the entrance to the hall.

The chamber plan admits of but three bed-rooms, but all are of large size and pleasant outlook. There being no attic, if further chambers are needed, the room over the kitchen can be conveniently divided into two of moderate size for domestics or children.

The cottage is intended only for a small family, with few servants or children, and with the present design could hardly be altered or enlarged, and yet retain its simplicity and beauty. A row or block of such a class of houses in any of the suburbs of our city would form a striking sight. Cost would be not far from \$8000.

New Pear—"The Star of Bethlehem."

A VERY desirable new pear, bearing the above name, has been introduced to our attention.

Specimens as received by us speak highly in its favor, both as to color, quality, firmness, and size, and it seems worthy the attention of pomologists.

Fruit is of very large size, same shape as *Beurre d'Anjou*, obtuse, regular form, surface smooth, deep yellow color, slightly russeted, with handsome red cheek on side nearest the sun. Stalk is quite short, about an inch, skin very thick, imparting a slightly astringent taste to flesh nearest the surface. Flesh, yellowish white, somewhat coarse, but buttery, melting, and with a fine, sweet, excellent flavor. Season of ripening, 1st of Sept. Originated at Bethlehem, Pa.

A correspondent furnishes some particulars as to growth :

"It strongly resembles a persimmon tree; habit is low and spreading, the branches *never* assuming in the least degree a perpendicular or upright form; branches are very enduring, and capable of bearing heavy weights, even to the extremities of the limbs. It is wonderfully productive, and a sure and regular bearer. It possesses a very desirable quality, that is, retaining its rich flavor and juice and firmness long after the ripening period. The flowers appear to be proof against the destructive influences of late frosts.

"There are but *two* trees of this variety now growing. One was grafted with a scion from the parent stock; the latter (the parent) is now about one foot in diameter, and about twenty-five feet high."

We are indebted for specimens to John H. Jenkins, of East-Bethlehem, Pa.

St. Joseph and Benton Harbor, Michigan.

BY O. S. WILLEY, MADISON, WISCONSIN.

THE former of these places was once a rival of Chicago, and aspired to be *the* city of the West; but finding that the town was on the wrong side of the lake, or else that the lake was made upon the wrong side of the town, the fathers of the city had to abandon their expectations, and "let Chicago be a city, notwithstanding they had the best location;" and so through the kindness of St. Joseph's people, Chicago grew to be what she is. But it's an ill wind that blows no one good. Chicago grew; with it her railroads wove her network all over the North-west. It grew in proportion; and a vast country, which failed to produce *all* the luxuries of life, was fully developed. These must come from somewhere; man's appetite must be satisfied; the thing not produced is only so much the more desired. Over a large proportion of the prairies of the North-west, as well as the towns and cities which they support, fruit home-growers, and fruit is the exception, and not the rule. From whence, then, must it come? From "somewhere," like the oranges and pine-apples of the tropics. Southern Illinois has been noted for its abundant supply; indeed, one would almost think they "fed the people," to see the amount of green fruits they send abroad. We of Wisconsin are in a favored climate in this respect; with Illinois fruits at least a month earlier than our own or even Michigan; then come the very late-grown sorts we receive from the different peach-growing districts of Michigan; and who could wish for more? It is for its fruit that Michigan is becoming noted; and nowhere more so than at St. Joseph and Benton Harbor. I took a hasty look at these places a few weeks since, and was agreeably surprised at what I saw and heard; and though the people are very reticent, and don't like to appear in public, I shall venture to say that the fruit yield of every description is very flattering. St. Joseph lies high and slightly from the lake, affording a beautiful sight either



"The Star of Bethlehem" Pear.

from land, upon vessels and steamers upon the lake, or from the latter to the city. Landing, we find the soil exceedingly sandy for some distance from shore, yet sufficiently calcareous to give it strength for vegetable growth; and upon seemingly the most sandy portions, vegetation looked uncommonly healthy. Never saw thriftier clover than there. Peach-trees were "a sight to behold." We were there but one day, which was improved to the best of our advantage; but we took no notes. We were told the largest orchard measured about sixty acres. Went through quite a number of orchards, and did not see a sickly or injured tree caused by severity or changeableness of the climate. And here we might say, their location upon the lake is such that our Wisconsin winds blow to them its dampness, so modifying zero's cold that the tender buds of many tender plants stand unharmed. But this dampness is not without its results and effects on the human system, as more or less fevers and chills were ready witnesses. Tea and perpetual roses were wintered out, without protection save that by nature given. Lawton blackberry, which in Wisconsin is worthless, there is perfectly reliable, bearing heavy crops of delicious fruit. The change between the fruit-trees in general of Wisconsin and those of Michigan was so apparent we could not help but mark this effect of climate. Orchards are well cared for. I have visited many fruit districts of Illinois, but have never seen fruit-trees tended with that attention as was here apparent. Weeds and grass in the orchard were one of the exceptions we failed to find. With no crop save that of fruit required from the soil, perfect cleanliness appeared everywhere. Much attention is given to raspberries and strawberries. The former coming into market at the same time as Illinois blackberries, it is found more profitable to dry them, when they have a ready market at 50 to 60 cents per pound. Benton Harbor is younger in its growth. About "seven years since, they had a connection with the rest of the world" by a bridge across the St. Joseph River. Of course it looks young, and has no lofty, pretentious residences to please the eye. Its orchards look equally well with those of St. Joseph. Pears and cherries are receiving much attention. Aside from the borer, they say they have no insects which do them harm. This (the borer) attacks the peach-trees, requiring close examinations every season. Still, their depredations are not of a very serious nature. Real estate is very high; and in this respect, if no other, they may rival Chicago. Several shops or manufacturing establishments are constantly at work making berry-boxes—the largest one working from twenty-five to fifty hands, making the Halleck patent raised bottom square box. They also make the peach-basket, this being generally preferred to the box. "For nine years there has not been a total failure of fruit, and but one partial failure;" so said those who knew. With such a history, who could make the good people of these towns believe they could have a rival for success? We would not try, and only wish for them that their prospects may never be less.

Lygodium Palmatum—Climbing Fern.

THIS most interesting of all the Felices—interesting because of its rarity, novelty, and peculiar habits—is found but rarely, and is an exclusive inhabitant of America.

There are but few localities, at present known, where it grows; the only place where it has been found in quantity is at East Windsor Hill, Ct., and here it grows in greater abundance than in any other known place.

About twenty years since, it was shown, and the place of its growth imparted to a very few individuals outside of the town, and, until within some six or eight years, the secret was sacredly guarded; but from seeing a few specimens, and its singularly beautiful winter ornamental appearance adorning the parlor or sitting-room of friends, inquiry arose to what it was, and where it was to be found; and gradually the secret came to be no secret, and for a few years past it has spread fast, and load after load of excursionists came out from Hartford, and adjoining towns, in August and September, to gather it, till last year as many as seventy were counted on a single afternoon, gathering and carrying it away, pressing

it into and tying in sheets, decorating their horses and carriages, etc., with it. At last, it becoming evident that it was likely to be entirely destroyed in its native home of abundance, a few individuals interested in natural science, interested themselves and the proprietors of the ground where it grows the most abundant, and procured the passage of a law at the last session of our State Legislature to protect it, by imposing a fine and imprisonment on the gatherer without his or her having first obtained liberty from the proprietor of the land whereon it grows. Thus we hope to save it from wanton destruction.

The peculiarity of this fern is, that it propagates itself only by its spores borne in its frondlets on the upper portion of the plant, and resists all efforts heretofore made of transplanting—although frequently attempted by taking it with portions of the soil in which it grew; and gathering it, as has been the practice, before these spores are shed, or the plant has ripened prepared to continue its kind, has largely diminished it and would have, in a very few years, quite exterminated it unless interfered with.

Within a few miles of this, there is a place where it formerly grew sparingly, which has been destroyed by this persistent gathering. There are several places along the Atlantic coast where it grows sparingly, and it will be found much more sparingly than some would have us suppose; for the sake of science it should be sacredly guarded and protected wherever it grows or is found.

The plant is found at East Windsor Hill in rather moist, grassy woodlands; wood, of small growth, with underbrush, growing and twining about small sprouts, etc., beside the public highway. Its smooth leaf and slender, twining, flexile stem, with short, alternate petiole branches, two-forked, bearing palmately four to seven-lobed sterile frondlets, surmounted, above, with its delicate fertile frondlets forming a terminal panicle, form a most interesting study; and, when pressed, it forms one of the most beautiful of ornaments, hung around wall-pictures, or fastened to lace or other white curtains; so that no wonder it is so eagerly sought for parlor ornament, as well as for the adornment of churches on special occasions.

W. H. W.

Shade-Trees—Hints for Street Planting.

THE following are extracts from a paper prepared by Mr. William Saunders, Superintendent of Public Grounds at Washington, and submitted to the Washington Board of Aldermen.

The principal qualities that a tree should possess to render it suitable for street planting are the following:

1st. A compact stateliness and symmetry of growth, as distinguished from a wide-spreading or pendent form, so that the stem may reach sufficient height to allow of a free circulation of air below the branches.

2d. An ample supply of expansive foliage, of early spring verdure, and rich and varied in the colors and tints assumed during the ripening of the leaves in autumn.

3d. Healthiness, so far as being exempt from constitutional diseases, as well as from those maladies frequently engendered in some species, by peculiarity of soils and atmospheric impurities.

4th. Cleanliness; characterized by a persistency of foliage during summer, freedom from fading flowers, and exemption from the attacks of insects.

5th. It should be easily transplanted, of moderately vigorous growth, and not liable to throw up shoots from the roots or lower portions of the stem. A tree of extremely rapid growth is generally short-lived, and should be avoided.

6th. The branches should be elastic rather than brittle, that they may the better withstand heavy storms. And lastly, there should be no offensive odors from flowers or foliage.

While it is perhaps impossible to procure a tree possessing all of these qualifications, we can select those species that make the nearest approach to perfection, of which the following are the most available:

1. Silver Maple, *acer dasycarpum*. This is very appropriately held in high estimation,

for planting on streets, and possesses most of the qualities required. It is of rapid growth, of upright form—unless thrown out of its normal shape by injudicious pruning—foliage ample, at the same time not so dense as to prevent a partial circulation of air, which is much preferable to a dense, impenetrable mass of foliage, near buildings. Neither is it subject to the attacks of insects, and it has the further merit of being cheaply propagated.

2. Sugar Maple, *acer saccharinum*. This is the most beautiful of all the maples; indeed, there are but few trees of any kind that can compare with it in stately gracefulness; supporting a heavy head of foliage on a comparatively slender stem, imparts a great degree of elegance to the symmetrical contour of the tree. The superb color of the foliage during autumn renders it a conspicuous tree during that period of "tints and shadows." As a street tree it has superior merits and attractions.

3. European Sycamore Maple, *acer pseudoplatanus*. A tall tree, with broader leaves than either of the preceding, and equally valuable in every respect.

4. American Linden, *tilia americana*, a well-known native tree of lofty and robust growth, well fitted for wide streets and avenues, affecting the suburbs rather than a crowded city. It is possessed of a wealth of foliage, and fragrant flowers, grows readily after removal, and of cleanly habits. Its European congener, *tilia europea*, is also a fine tree, but of late years has been much injured by insects.

5. Tulip Poplar, *liriodendron tulipifera*, or tulip-tree, is one of the most unique and beautiful trees of the forest. None others can surpass it in the beauty of its foliage in spring, or of its flowers in early summer. The leaves change to a bright yellow tinge during fall, and are very attractive at that season. No other tree will harmonize so well, or be in better keeping with the public buildings in this city. Its tall columnar stem and majestic growth specially indicate its availability for decorating the vicinity of large buildings and road promenades.

This tree is rather impatient of removal, and is consequently rather difficult to transplant, if treated in the ordinary mode; but there is no difficulty in preparing young trees for successful removal, so that this objection is easily overcome.

6. American Elm, *ulmus americana*. The elm has been so commonly planted that in some sections of the country, street tree and elm are synonymous terms. Its repute has been greatly impaired on account of destruction to the foliage by insects; but all localities are not equally subject to these destroyers, neither are all seasons alike favorable to their increase. The great beauty of this fine tree and its rapid, towering growth are recommendations for wide streets.

7. American Ash, *fraxinus americana*. A fine tree, of erect growth and expansive top. Its pinnated foliage imparts a certain expression of lightness, which, combined with massive shade, gives the plant quite a distinctive character. It is easily transplanted, growing freely after removal, even although of considerable age and size.

8. Horse-Chestnut, *æsculus hippocastanum*. The horse-chestnut is a well-known heavy-foliaged tree, surpassing most others in the beauty of early spring verdure. Its hyacinthine flowers are also conspicuous objects. The compact, dense form of growth causes a dense shade, and in consequence it should not be planted very close to a building. On poor, thin, gravelly, or sandy soils, it lapses into a brown study during dry summers, but is always satisfactory where the ground is deep and rich.

These comprise the best of a list that might be considerably extended, and are probably sufficient for all practical purposes. In planting a line of trees on the street or straight avenue, it is in best taste to confine them to one species or kind. Variety in this connection only tends to confusion. The beauty of grandeur that is produced by continuity and repetition of the same objects is destroyed by introducing a mixture of varieties, and is as much at variance with good taste as would be a mixture of orders in the columns of a building.

To enumerate all the trees that should be rejected would involve an extensive catalogue. If any practical botanist was asked to name four trees the least of all fitted for street planting, he would, in all likelihood, name the white poplar, ailanthus, buttonwood, and yellow-locust.



American Pomological Society.

Twelfth Biennial Session.

IN reviewing the proceedings of the American Pomological Society, and the successful exhibition of native fruits at Philadelphia last September, several points of more than usual strength are brought to our notice:

1st. To what an immense extent American horticulture has developed itself, both in width of territory and almost uncounted varieties of fruit.

2d. The astonishing number of *new* fruits that are appearing every year, almost too fast for proper horticultural recognition and examination.

3d. How almost impossible it is for even so high an authority as our National Pomological Congress to determine with sufficient accuracy the value of all these new varieties.

As horticulturists, mutually anxious to see all disputed questions of pomology decided by some reliable authority, fruit-growers look to our American Pomological Society for final appeal; but, alas! owing to limited facilities, or the tedium of protracted sessions, or the want of attendance of those most qualified to speak, the real influence of the society has never yet been such as it deserved to hold. We could wish that it came oftener, and was better attended. The address of President Wilder is congratulatory on the progress of our American horticulture, rejoicing in the increasing interest felt in horticultural pursuits, and drawing favorable contrasts between the present and the past of our history. Alluding with grace to the old association of the first formation of the society, or the reminiscences of years ago, when but one agricultural newspaper taught American husbandmen the science of agriculture, he passes through the importance of studying the subjects of "inconstancy of seasons," and "deterioration of varieties," touches feelingly on the deaths of William R. Prince and Henry H. Crapo, of Mich., and concludes with the expression of cheering hopes for the future, through the opening of new territory, additional facilities for intercommunication, and especially the good accomplished through the agency of the press in the dissemination of useful horticultural information. One of the most beautiful passages of the entire address seems so full of sympathy and love for natural beauty that we ask all to read and remember it:

"What greater temporal comforts can we leave to our heirs than the fruits of the orchard and garden? What more valuable testimonials of a philanthropic life than the trees we plant for future generations? Trees are the best landmarks of a noble civilization. Trees are a rich legacy to our heirs. Trees are living monuments to our memories. Fruits are perpetual mementoes to our praise. The man who plants a fruit-tree is a benefactor of his race; and when we shall have gone to our rest, when the fragrance of vernal bloom shall no longer delight the senses, when the verdure of leafy summer shall no longer inspire the soul, when the golden harvest of mellow autumn shall no longer gladden the sight, the tree shall live to bless those who shall follow us. And when, in after ages, posterity shall recline under the shade of the trees planted by our hands, and gather from their bending branches the luscious fruit, will not some grateful heart remember the giver, and ask, '*Who planted that old apple-tree?*' How beautifully is this sentiment portrayed by our own poet Bryant:

'What plant we in this apple-tree?
Sweets for a hundred flowery springs,
To load the May wind's restless wings,
When, from the orchard row, he pours
Its fragrance through our open doors.'

'What plant we in this apple-tree?
Fruits that shall swell in sunny June,
And redden in the August noon,
And drop, when gentle airs come by,
That fan the blue September-sky;
While children come, with cries of glee,
And seek them where the fragrant grass
Betrays their bed to those who pass,
At the foot of the apple-tree.'

"And when the thousands who have enjoyed its fruits and shared its blessings are buried, like its own roots, deep in the bosom of mother earth—

'The children of some distant day,
Thus to some aged man shall say,
Who planted this old apple-tree?'"

The discussions that followed, lasting over three days, commenced with apples, and was the best sustained department on the entire list.

The following new varieties were noticed, and favorably received:

Edwards Early, of Va., is early, medium size, striped, sub-acid, flesh firm, and excellent flavor. The tree is both a good grower and a good bearer, ripens 1st July, or at same time as Early Harvest.

The *Pilot Apple* originated in Nelson Co., Va., is a winter apple, striped, round, large, bears well, considered first class.

Early Congress, of Me., apple said to resemble the Gravenstein. Is early, ripening from 25th July to 1st September. Said to be earlier and more prolific than the Gravenstein; brings excellent prices.

Stark Apple vs. Pennock. This vexed question was finally settled by a statement of Mr. Bryant, of Illinois, that the apple sent to the committee as the Stark was really the Pennock, which has long ago been discarded in Illinois. Dr. Warder stated that any one who knows the two apples would be aware that they are not identical.

Missouri Pippin. Described as being one of the best market apples in Missouri and Kansas. Very productive. Resembles the Ben Davis, nearly the same form, and keeps until March. Is of fair quality, rather better than the Ben Davis.

Grimes Golden Pippin. Mr. Wood, of Ohio, stated that he had known it for twenty years, and it had proved to be a good bearer, regular, medium size, quality first-class.

Wagner Apple did well in Illinois, and was found profitable and valuable. Is somewhat irregular in growth, and should be planted close and trimmed low.

Kelsey, Kansas.—It is a profitable apple to plant in rows between the rows of other varieties. Say, plant an orchard of other varieties thirty feet apart, and plant the Wagner between them. It bears early, and pays for itself before the other varieties begin to bear. It exhausts itself early, and when it ceases to be profitable cut it out, and there is a good orchard left.

Arnold, Ontario.—I have had it growing twenty years. It grows well, is hardy, profitable, overbears sometimes, but is very profitable with us and highly prized.

Moody, N. Y.—I planted Wagner twenty years ago. If root-grafted, it should be grafted on the crown of the root, and only one graft made on a root. So grafted, it will last as long as a stock-worked tree.

Kelsey.—I had as soon graft it or any other fruit on the second cutting of a strong root as on the crown.

Moody.—I have discovered a decided distinction, in both the nursery and the orchard, between trees worked on the crown of the root and on the second cutting. I would not give a farthing for ten thousand trees grafted on second roots.

President Wilder.—Can grafting at the crown of the roots be called root-grafting? I would not so call it.

Clapp's Favorite Pear had proved excellent in Western New-York and New-Jersey, Pennsylvania, Maine, Vermont, New-Hampshire, and Massachusetts. Found to be hardy, and holds its leaves well on light soils. To prevent rotting at core, it must be picked early and permitted to ripen up.

Wilder, Mass.—Mr. Clapp has one hundred trees of this variety planted for his own use. He believes it to be the best and most profitable early pear in existence. It does rot at the core if not picked early. The specimens on exhibition here were picked twenty days ago. It should be picked the 20th of August, or earlier, in Massachusetts; so picked, it does not rot at the core. It ranks with the Sheldon. It will keep until ripe, when it must be eaten, or it will rot right down.

Butler Pear. Is a very productive late variety, ripening in October in Pennsylvania. Holds its leaves well, and considered valuable.

Doyenne du Camille. Does not succeed, new wood kills badly, and does not graft well on other stocks.

Dana's Honey. Has done well in Western New-York and New-Jersey. Does not bear early, and when in producing condition needs considerable thinning.

President Pear. Described as being a large pear, as large as Beurre Diel, not first quality, and dull color. Is a good bearer and vigorous grower. Was not recommended as a market variety.

Roussellet de Meestre. Recommended as an amateur variety, better quality than Belle Lucrative, fine bearer, and a little more color, but not ruddy enough for market.

Souvenir du Congrès. Very large, a seedling of the Bartlett, ripens earlier.

Duchesse de Bordeaux. Good large size, fine quality, but dull color.

Emile d'Heyst. Has done well in Massachusetts and Georgia. Tree hardy, great bearer, producing its fruit in clusters, excellent quality, admitted to be a very promising variety.

Goodale. Described by Wilder and Hyde as a very beautiful tree. Growth upright, holds its leaves well, large size, handsome color. Must be picked early. Considered very valuable.

Doyenne Boussock.

Mitchell, Pennsylvania.—It is of superior flavor.

President Wilder.—I have had it twenty-five years. It is excellent with me, and of very good quality, though not first-class. I am astonished to hear that it cracks. We make it a constant bearer. We pick off about half its fruit in the middle of August. It is a vigorous grower. In Belgium, Mr. Berckmans told me he had seen trees of it eighty feet high and three feet in diameter.

Quinn, New-Jersey. —I have it, and like it better every year. It colors well and sells well.

President Wilder.—I never knew it to injure on tree or fruit.

Earle, Mass.—It is a very valuable fruit to us.

Mills, Ont.—It is highly esteemed with us, and is free from all crack or rot; it is perfectly healthy in tree and fruit.

Coit, Ct.—I have it growing, both as standards and dwarfs. Tree is healthy and fruit does not crack with me.

Hovey.—It is a well-known pear. In market it is only second to the Bartlett in popularity. Tree is a vigorous grower and productive. Its fruit now (Sept. 16th) is in fine condition for market. It gives good satisfaction. It is remarkable for its uniformity in size. We take off about one eighth of the crop of smallest specimens early, and they ripen up nicely thus picked. It is not high flavored, but is very good, and suits the palate of the public.

Josephine de Malines. Had not done well. Poor grower and poor bearer, although quality excellent.

Baronne de Mello. Considered of highest quality, delicate flavor, fair productiveness, large size, russety color, season November, considered promising near Boston, could not be recommended south of Philadelphia.

Counseilleur de le Cour. An autumn and winter variety, very large, but not reliable bearer, a fine tree, holds its foliage splendidly, but not fine color.

Frederick of Wurtemberg. Same as Beurre Montgeron.

Satterthwaite.—I have one tree twelve years of age, which I consider very valuable; always colors up beautifully, and is worth more for market than 100 Bartletts.

Coit.—Has borne very abundantly with me this year, quality piquant.

Edmunds Pear. Quality almost unsurpassed. Good to eat but not to sell, very productive, must be picked early.

General Tolleben Pear. A crooked but very vigorous and strong grower, hardy, large, late fruit, productive, first quality, keeps until December or January, must be picked early or will rot at the core.

Kirtland Pear. Very valuable for home use. Very handsome, must be picked two weeks before fully ripe, and ripened in a dark room.

Japan Pear. A great novelty. A graft put out last year is producing this year fifty-two specimens, excellent for cooking, healthy, vigorous, largest foliage of any pear grown.

Mount Vernon. A seedling of Mr. Walker, near Boston, which came up near his office-door, has a peculiar flavor, decidedly like cinnamon, medium to large size, ripens last of October; of all the new pears, considered one of the best.

Souvenir d'Esperin. Very handsome, but worthless, not fit to eat.

Abercrombie. Small, slightly pyriform, very fine flavor, ripens early in June in Southern States, as early as d'Été, but a poor grower.

Sheldon. A good grower, good bearer, one of the best early pears, cracks in some places, and must be picked early.

The discussion of pears here closing, we will resume in our December number notes on small fruits.

Newburg Horticultural Exhibition.

Of the various horticultural exhibitions held the past two months, we found none of local interest to exceed in value that held at Newburg Sept. 29-30. In some respects it was more enjoyable than that held in Philadelphia during the session of the American Pomological Society. The display of fruit was not as large, but more choice and more finely colored. The citizens of Newburg contributed freely from their gardens and fruit-grounds, and the display proved an eminent success.

We would note specially the fine collection of grapes, filling one entire table, and presented by J. H. Ricketts, D. Smith & Son, Francis Scott, and others, numbering over twenty varieties of hot-house grapes and twenty-five or more of out-door grapes.

The season has been most favorable for the growth of all kinds of grapes, and without exception the bunches were large, fine, and luxuriant. Some of our old standard favorites fairly astonished us with their beauty of clusters and fine quality. We observed several new varieties of excellence.

The *Senorqua*, a seedling, by Dr. Underhill, from Concord, fertilized with Black Prince. It has a very good flavor, juicy, thin skin, no astringency, bunches very large and compact, berries large, black, and deep bloom. The vine is as hardy and vigorous as the Isabella, and quite as productive, but the bunches are much superior in fine, regular forms.

The *Croton Grape*, a seedling, also by Dr. Underhill, is also exhibited for the first time. Is a white grape, very sweet and vinous, bunches very large and loose; berries of medium size; quality best.

The collection of hot-house grapes was quite a credit, some plates containing mammoth specimens of the White Nice, Boxwood Muscat, Red Lombardy, Prince Albert, and Muscat of Hamburg, often a foot long.

Nearly all prominent varieties of out-door grapes were well represented, but we were especially pleased with the excellence of the *Jonas*, which were unusually splendid, and quality very superior. Wherever we saw the vines growing, we found them very vigorous and fruitful.

The *Isabellas* are fairly of monstrous size, outranking even the Concord.

Allen's Hybrid showed very fine large bunches, of clear white color; quality excellent.

The *Israella* is becoming quite a favorite with those who desire an early black grape of good flavor and productiveness. It bears a fine, compact bunch, and is quite vigorous.

The display of *Pears and Apples* was of a superior nature, the collections of Alfred Bridgeman, Henry Cornell, and J. H. Ricketts being especially noteworthy.

The specimens of fruit seemed unusually finely colored, and the tables had quite a gay appearance. We noticed that the Duchesse d'Angoulême, a success almost everywhere else, is here a failure, very few specimens being on exhibition, and those of indifferent size and appearance.

We noticed also several seedling peaches, and one beautiful little seedling apple by D. A. Morrison, which is of small size, but most beautifully colored, with brilliant red stripes and occasionally white over a portion of the surface. Its fine appearance would make it a very salable variety. The varieties of pears on exhibition exceeded one hundred.

The entertainment seems to have been one of the most successful ever held in the city, and in real excellence hardly excelled in the entire country. It would be well for our horticulturists, who desire to see good fruit exhibitions, to take occasional pilgrimages thither.

Early Bearing of Fruit-Trees.

CULTIVATORS often err in allowing their orchards to bear too heavily in their youth. After waiting for five, six, or more years, the first appearance of fruit is hailed with delight, and pleasant anticipations of a profitable harvest are naturally formed. The young tree is permitted to carry all the fruit that sets, and in its first efforts it is fairly overloaded.

This practice is productive of the greatest injury, and subsequent years prove how deeply the errors of the first year affect the bearing capacity ever afterward. *Thinning* fruit is something more than theory; for it deserves to be ranked among the precepts of the golden rule of successful fruit culture. A few specimens only should be allowed to hang on the tree the first year, and the number should be increased only moderately year after year until the tree is vigorous enough to bear constant and heavy crops.

Effects of Pruning in Summer.

A CORRESPONDENT of the *Canada Farmer* has been examining closely the comparative advantages of pruning in winter or summer, and is satisfied that June is the best month:

"Attention has been called by some horticulturists to the fact of its being injudicious to prune trees—either apple, cherry, or plum—in the winter or early spring months, and also to the injurious effects arising therefrom; at the same time great stress has been laid on the ad-

visability of pruning (whether heavy or light, large or small boughs) during the latter end of June, and especially to cut quite close to the stem or trunk with a smooth, clean cut, and not pared in the least at the edges. This fact is quite supported in the evidence of some trees pruned by a neighbor in March, (simply because he had nothing else at that time to do,) and trees pruned by the writer in June. In the latter case, although some boughs were quite large, yet a ring of green fresh bark gradually closed all round the part where the limb was severed, and the very slight exuded moisture, caused by cutting close to the trunk, kept the part very slightly moist, and consequently free from any tendency to decay. Were it left to project, as some advise, the stump would have become dead and dry and full of cracks, with no prospect of healing over. My neighbor's trees are precisely in this condition in many instances."

Slitting the Bark of Cherry-Trees.

THE bursting of the bark of the Heart and Bigarreau cherry-trees is often as serious a danger to the health and life of a cherry orchard as the black-knot on the Morello cherries. Various devices have been proposed to remedy it, but none successful; some recommending a light, dry soil—others, shade for the trunk of the tree; but a correspondent of the *Canada Farmer* recommends *slitting the bark of the trunk*.

"Cherry-trees are benefited by having one or more longitudinal incisions made with a knife once a year, about June, from the forks to the ground, and also longitudinally down each limb from the upper part to the forks of the trunk. An old friend of mine advised me to do this, saying that unless it was done the trees could not grow, and would die, or not bear any fruit; would exude gum, and gradually get unhealthy. I followed the advice for these three years past, and certainly the trees are full, and bear well. But the most curious part of the operation is, that in a week after the incision is made, if done in June, the outer, dead, horny rind will not meet again over the cut, nor will it do so if made in four places at different sides of a limb or the trunk. Sometimes the gaping aperture will be one eighth of an inch from meeting, on four sides at once. It seems to me that the tree is bound up in a tough, hard, thin shell, and can not so well force its expansion; but the moment an incision is made, relief is obtained similar to that experienced when ladies' tight lacing has suddenly been cut during fainting fits in church or elsewhere. The fact I have seen proved in cherry-trees many times, but do not know why nature has clothed them with such an unyielding skin as to require opening for natural growth and development. Attention is particularly directed to the time at which any incision in the bark can most safely be made, as some experiments made in March proved injurious; the cuts never healed properly, but continued to exude gum, and a growth of diseased woody matter on each side of the cut was the result, whereas incisions made in June were followed by rapid healing over of the part, caused, no doubt, by the exudation of sap, which at once forms healthy young bark."

The Rural Carolinian.

WE have received the first number of a new magazine, with the above title, published at Charleston, S. C., by Walker, Evans & Cogswell, and edited by D. H. Jacques. It is both edited and published with most excellent taste and enterprise, and its first number speaks handsomely in its favor. Like nearly all other Southern magazines, it is devoted to mixed agriculture, horticulture, rural improvements, and items for the family circle. We trust its record will prove eminently prosperous.

Strawberries vs. Sweet Potatoes.

WE have before us a Vineland paper containing the record of several experiences in strawberries and blackberries; also one in sweet potatoes.

The average returns to even the most successful strawberry-growers varied from 8c. to 14c. per quart, or \$100 to \$200 per acre; not including cost of picking, cost of baskets, or cost of cultivation. Only four instances of such profits are given.

But we observe, on the other hand, a record of experience in sweet potatoes which proved very successful, the cultivator realizing \$400 from two acres of ground. As the sweet potato loves a light, dry soil, we should think it would prove a more simple and, at the same time, a more remunerative crop for South-Jersey soil than berries.

Grapes in South-Jersey.

THE grape crop in South-Jersey has proved uniformly successful. Full crops have been obtained and fair prices realized; from 8c. to 15c. per pound for Concord. At this price, vineyards have yielded from \$400 to \$1200 per acre. The returns from grapes have proved a welcome gift to those who lost on strawberries.

Saving Girdled Fruit-Trees.

IN the February number of *THE HORTICULTURIST*, Mr. Quinn gave an account of his method of saving pear-trees girdled by the mice. We observe, according to the *Nashua Telegraph*, N. H., Mr. Lemuel Town of that place has been equally successful.

"A correspondent of the *Nashua Telegraph* says Mr. Lemuel Town, of that place, practices successfully a method of his own invention for saving girdled trees. His method, which was first applied to a fruit-tree in his own garden in Milford, is to graft five or six scions as large round as a goose-quill, and long enough to reach over the girdled place, into the tree. The live bark is first notched above and below the girdle, the sprouts sprung into place, and the ends fastened with wax. These scions grow rapidly, and in time spread over the whole girdled surface. Two thrifty apple-trees standing upon the premises of Mr. Samuel B. Weston, on Temple street, in Nashua, were completely girdled by mice eighteen years ago, one of them having the bark taken off over a foot in width on one side, and were saved in the above manner by Mr. Town, and they are still in good bearing condition."

Too Much Shade.

THE Springfield Republican, in an article commenting upon the beauty of our New-England villages, with their cottages hidden under the canopy of majestic old shade-trees, suggests that they are as much an injury to health as they are a benefit to the landscape scenery.

"In all planting of trees, it is a universal fault that they are put in too thickly. The street or yard is bare, and one object is to 'make a show' as soon as possible. Consequently two or three times as many young trees are set out as ought to occupy a given space. Once planted, they are neglected; and though they grow imperceptibly, they do grow 'while we are sleeping,' as well as when we are awake, and before one would think it possible there is a thicket where there ought to be only a tree. Even then, in many cases, the owners refuse to cut them down. One comes to have a sort of fondness for a tree he has planted and seen every day for years, and hates to lay the ax at its roots; and if the man of the house makes up his mind that the sacrifice is necessary and wise, quite often the women of a household will make a point of preventing it by their sentimental pleadings and tears, though they may be growing paler and weaker day by day, and though their children may be growing up puny and white, like potato sprouts in a cellar, all on account of the trees they refused to have removed.

"This affection for trees, especially those that surround one's home, which perhaps one's own hand has planted, is very creditable, and to be encouraged to a reasonable degree; but the unreasonable cultivation and gratification of it is working great harm in many instances. The old places in New-England are, very many of them, getting to be too shady for beauty or for health. There are streets in Springfield which the sun of the longest and clearest days of July can not penetrate; and houses where the sun is the most unfrequent of guests in the living-rooms. And what is true of Springfield is true to a greater extent of many other places. We all know of people who are pining away, sick of no apparent disease, but clearly destined for early graves, and all for no reason but they will persist in living in the shade instead of the sunlight and air that God made for them. In every old town of New-England may be found one or more ancient houses, situated in the depths of what has come to be a forest, from which the old stock, healthy enough one or two generations ago, has all died out, or been saved from death only by emigration; and yet probably no one could have convinced the inmates, as one after another they went into a decline, that they were killing themselves by living in the shade.

"No house should be so shaded by trees, or otherwise, that the sun, with all its brightness and warmth, shall not strike into the living and sleeping rooms several hours each day. During the few hot weeks of summer its direct rays can be excluded by blinds or curtains, if desired, though even then the fact that it strikes the house is of great benefit in a sanitary point of view; but for most months of the year, in this climate, the sun should be freely admitted and welcomed. The carpet and furniture will be faded a little more rapidly, to be sure; but it is better to have these faded than to become a family of invalids. In all planting of trees in private grounds the preservation of the sun's influence upon the house should be carefully provided for by planting the trees at a distance; and when there is only a small yard, the smaller trees and shrubs alone should be used for the gratification of one's taste in arboriculture."

Fall Treatment of Fruit-Trees.

JOHN J. THOMAS, during his experience with tree-planting, says:

"We have never succeeded better than by taking up trees about mid-autumn, heeling them in by burying the roots and half the stems, for wintering and setting out early in spring. In heeling in for winter, it is absolutely essential to fill in all the interstices among the roots very compactly with fine earth. Many trees are needlessly lost by carelessness in this particular. The roots are injured by dryness or mouldiness, and the mice find easy access among the cavi-

ties. To exclude mice effectually, the heeling ground should be clean and a smooth mound of earth raised on all sides about the trees."

List of Apples for Michigan.

THE *Western Rural* recommends the following list for Central Michigan :

Early Harvest.....	25	Spitzenberg	50
Red Astrachan.....	25	Baldwin.....	50
Duchess of Oldenburg.....	25	Canada Red.....	100
American Summer Pearmain.....	25	American Golden Russet.....	25
Fameuse or Snow Apple.....	25		
Rhode Island Greening.....	50		400

Blackberries at Cincinnati.

At a recent meeting of the Cincinnati Horticultural Society, Mr. McGregor said that the Kittatiny Blackberry ripened about the same time as the Lawton, but the berry was sweeter. The Early Wilson ripened eight days earlier than the Lawton, and the berry was double its size, and though it requires more sugar, he considered its quality preferable to that of the Lawton.

Fruit-Trees for Shade.

* A CORRESPONDENT of the *Country Gentleman* thinks that if fruit-trees were planted instead of maples, we could have both shade, ornament, and fruit. Practical illustrations of the benefits of such a course are often seen. We have in mind two farmers whose land borders on the road. One of them has a nice row of maples, which furnish nothing but shade, and seriously injure his land. The other has a splendid row of apple-trees. They furnish shade, are ornamental, and do not injure the land near as much as maples. They also furnish a large supply of valuable fruit. Believing the last example much the best, we would recommend it for imitation.

Pinching Back Raspberries.

A. M. PURDY writes to the *Rural New-Yorker* in behalf of close pruning of raspberries :

"First, by doing so they grow more stocky and require no staking, (if properly done.) Second, the crop is larger and more uniform in size. Third, they are more easily cultivated, as it is impossible to pass through a plantation of black-caps that are not kept within bounds." At the same time he claims that if *not* pinched back, and allowed to grow and produce at will, the plantation is ruined for future bearing.

"Well do we remember a plantation at South-Bend, Ind., of three acres of Doolittles, that was allowed to grow thus, and from which was harvested over seventy bushels the first bearing season of as fine raspberries as we ever saw ; and the result was, that that plantation was ruined, and never yielded another crop that paid a farthing, while other plantations of the same sort, cut back the first year to within one foot of the ground, lasted for a number of years, and yielded large, paying crops every season.

"It stands to reason that any fruit-tree or plant must get *well rooted* before being allowed to yield a full crop ; and, too, it is an admitted fact that if any tree or plant is checked in its growth, it will throw out stronger and more side branches, and grow much more stocky ; consequently it seems strange to me that any person who has had any *experience* in growing fruits should argue against trimming back raspberries.

"Now, we have simply *practiced both* plans, side by side, and know if they are not pruned they must be staked. The crop will not average half as much, the plant is but short-lived, and it is impossible to get among them to work them out as they should be if left unpruned ; while if cut back the *first* season to within one foot of the ground, and after that three to four feet, (the new growth as it attains that height,) they will be long-lived, and yield immense crops every season."

Mr. Purdy is right. Pruning is one of our methods of growing blackberries and raspberries successfully. We would not omit it under any circumstances.

Old vs. Young Apple-Trees.

A CORRESPONDENT of the *Prairie Farmer* seems to think that the renovation of old orchards is at best but a temporary benefit, for they seem to relapse again into the original habits induced by neglect and disease :

"When I began business, about twenty-five years ago, on the old homestead, where I now am, I thought that I would rather have an old apple-tree than a young one. Accordingly I began the work of renovating the old orchard, which had been much neglected. I pruned the top, scraped the bodies, grafted many of the trees, plowed and manured the ground. And the trees flourished and grew finely for six or seven years. Thus far my opinion coincides with

'F. G.,' as long as the old trees cumber the ground, they should be cared for. But my experiment with the old orchard led me to think that I missed it in placing my sole reliance upon it for the future.

"After the impetus given to the trees by the trimming and grafting had, apparently, exhausted itself, they relapsed into the old unthrifty state, and I have not been able to revive them since so as to make them at all satisfactory, and have been forced reluctantly to abandon them.

"I feel that I have lost time and labor experimenting with the old orchard, and would advise any of your readers who may be similarly situated to plant a new one instead. For the time being, care for the old one until the new one is available.

"This planting a young orchard has many things connected with it of importance. I would not advise setting the new orchard on the site of the old one; I never saw trees thus planted that ever amounted to much. I am far from being scientifically educated, but think perhaps the reason is the old trees have exhausted the soil of the proper nutriment required for the trees."

The Government Garden at Washington.

A CORRESPONDENT of the *New York Tribune* writes: "Among the attractions of the capital is the government garden, under the charge of William Saunders; and his management of pear-trees is worthy of note. It is simply to plant on good ground, give fair and clean culture, and let them grow. Pinching, pruning, and all those scientific and complicated directions derived from the French, and adopted by our orchardists, he considers worse than useless, for he attributes blight and other diseases to this treatment. Whether right or wrong, he has an argument in his favor which ought to weigh—the trees grow 'unconfined as Nora's tresses,' blight is unknown, and all varieties are loaded with fruit. It may be said that his plan suits such a latitude and soil as Washington; if so, let it be adopted there, and let pears be grown for the supply of the country. The fine varieties of grapes are also grown here without any disease, by placing two boards like a roof along the top of the trellis. I was surprised to see the China tea-plant growing vigorously in this garden. Mr. Saunders said it had stood without protection several years, and now it would seem that the growing of tea in this country is not to be considered with reference to the climate of Tennessee, or any of the Southern States, but as to whether the people desire to grow it. I can see no difficulty in almost any family, at least south of Philadelphia, and perhaps even north of it, growing their own tea, and if they are real lovers of tea, they ought to take the little care and trouble required; for if they do, they can have an article only equaled by such as is obtained in China itself, free from adulteration, and unaffected by the long sea voyage."

Early Rose in England.

THE potato culturists of England have had varying success and failure with the Early Rose; but frequent successes elicit expressions of admiration. One grower raised forty-four pounds from one pound of seed, cooked them, and "found them splendid; never tasted any thing to equal them."

Another raised one hundred and five pounds from one pound.

Enormous Peaches.

A PEACH-FORCER in England has succeeded in raising some extraordinary specimens of peaches. Two grown from the same eye weighed, respectively, nine ounces and eight ounces, and the girth of the larger was nearly eleven inches. This was an average size for all raised in the peach-house.

Pruning in August.

THE *Germantown Telegraph*, in an article on pruning apple-trees, makes the following statement, which is published for the benefit of those who have orchards to take care of. Most of our orchards have been badly managed, as their appearance and condition show. Generally they have been pruned in spring, a time now considered injurious to the trees. "Here, at the North, we have no class of people more successful with orchards than the United Society, or Shakers. They consider their trees as organized productions, capable of being improved by proper care, and injured by neglect and mismanagement. Of course, they are careful to see them fed with proper diet, and in all respects dealt with as things of vegetable life, having constitutions to be protected and preserved as they should be. We were passing their village at Mount Lebanon, New-York, last August, and found them engaged in pruning some beautiful apple-trees by the wayside. The novelty, to us, of seeing pruning performed at this busy season induced us to inquire why it was done. The reason given us was, that at that season the sap was thick, and of course would not run to waste, and that, if pruned then, a healing process would commence which would eventually cover the wounds,

and protect the tree from all damage through cutting off branches. In a subsequent visit to the society, we were invited into some of the orchards, which had for years been subject to this system of pruning, and it was a luxury to see their healthy trees, free from the wounds of injurious pruning, and, in some instances, with scarcely a scar to show the operation had been performed."

Floricultural Notes.

A New Turfing Plant.

A NEW turfing plant, *Pyrethrum Tchihatchewii*, has been introduced to public notice in France, as a very desirable plant for turfing lawns, etc., in poor, hungry soils where it is difficult to make grasses grow. The foliage is dark green, and much cut or lacinated. The plant is very dwarf and quite hardy, withstanding equally well the drought of summer and the hardest winters. The flowers are white, and resemble daisies.

Large Hydrangeas.

A CORRESPONDENT of the *Gardener's Chronicle* speaks of a hydrangea in his possession 36 feet in circumference, 11 feet in diameter, and 6 feet 7 inches in height, with 1270 blooms upon it.

Another correspondent refers to the frequency of the appearance of different-colored flowers on the same shrub:

"I have frequently seen them with blue and lilac flowers. In the same garden I have often observed plants bearing blue flowers within a few feet of others bearing pink or lilac blossoms. Sometimes there will be a couple of blue, then a pink hydrangea, and then blue again."

Still another correspondent, passing through an English village, observed several remarkable hydrangeas:

"They were then one mass of bloom; but singularly the colors in each plant varied in the proportion of about one third of the trusses of bloom being blue to the other two thirds rosy pink. These plants having but one base each, of which I have no doubt, it affords evidence that the variations in color in the flowers of the hydrangea is due to a sportive faculty only, and no other cause."

Magnificent Lilium Auratum.

AT the Royal Horticultural Exhibition in England, August 17th, a beautiful *lilium auratum* was exhibited, perhaps the finest ever known. It was originally bought as a single bulb, at the price of three guineas, and has not since been disturbed, but has been potted on as one entire plant. It had eleven, fine strong flowering spikes, each about eight feet in height, bearing one hundred and fifty-two blooms, of which about one hundred and thirty were fully expanded. The specimen was universally admired, and received a special prize medal.

A Novel Plant.

A FINE specimen of a new South-American climbing species of *Asparagus* has been exhibited in England, which when grown on a cord is very useful as a decorative plant indoors.

Rose Marechal Niel.

"My experience is, that to grow the Marshal to perfection it must be budded on the Briar—that is the great secret; and if planted on a south wall, it will do well, and produce abundance of fine flowers. All I have seen or have tried on the Manetti stock have failed."—*William Smythe, in Gardener's Chronicle.*

Rose Hedges.

A CORRESPONDENT of *The Florist and Pomologist* writes as follows:

"Many persons, for reasons which are scarcely intelligible, object to see growing vegetables in a garden. Hence for many years I have been compelled to introduce something to shut them out of view, and I have found that roses make the best and most pleasing of all screens. We have also found the old Noisette-Pellenberg by far the best sort to use. It must have a good deal of the monthly or Red China blood in the cross, as it is continually in bloom, and it may be had ten feet high on common hazel stakes; though of course stakes of iron are better.

"If a white hedge is wanted, Aimée Vibert is, in good soil, according to my experience, much

the best of that color; it is clear in color, free in growth, and an abundant bloomer. Both of them do well for cutting.

"Neither the Austrian Briar nor the Scotch Rose is of any use, in my opinion, for they remain so short a time in bloom.

"To yield variety, the following plan may be adopted: Place stakes ten feet high and ten feet apart along the back of a kitchen-garden border, which may be of any convenient width. From the ten-foot stakes drop down with rustic trellis, or fix stakes to five feet in the centre, making a festoon. Plant to each stake a hollyhock, and introduce between, different colors of sweet-peas and the Canary flower mixed, or convolvulus major, or any one of the endless host of facing-up plants."

Gladiolus Insignis.

WHAT a gorgeous flower for decorative purposes this is, whether for beds, borders, or pots! Grown in the latter, especially in large sizes, it would be a fine thing to slip into large vases, where, for the time, it would look grand; or even if used to decorate the conservatory, it would form an object of the most conspicuous and effective kind. Every body should grow it in the herbaceous border, where, in conjunction with blue delphiniums and white pinks, it would form a rich combination. I saw the other day a fine bed of delphinium that looked the richest thing in the whole place; but it wanted relief and contrast, and if around it had been placed a treble row of this splendid gladiolus, with its rich orange-scarlet flowers, and outside that a broad belt of white pinks, especially one of the later blooming kinds, it would produce a sensational bed, I am sure. The bulb is quite hardy, and starts its growth in the autumn, consequently is green through the winter. Pots of it housed through the winter will bloom a month earlier, and I have no doubt but that it would force well. The graceful form assumed by the spikes, and the fact that the flowers appear on the upper side of them, tend greatly to add to its beauty. It is one of those rich decorative plants that, although easy of cultivation, are too seldom met with; indeed, I almost think in this day a plant has only to be easily grown to be as freely neglected.—*Alex. Dean, in Gardener's Chronicle.*

A Beautiful Annual Flower.

THE Editor of *Colman's Rural World* recommends a pretty flower for general cultivation:

"One of the most charming and beautiful of annual flowers, or of any flower, annual or otherwise, is the *linum grandiflorum rubrum*, or large-flowered red flax. The habit of the plant is very much like the common flax, as also the shape of the flower. But the colors are bright, glowing scarlet and crimson, and it blooms in such great profusion as to make it very showy and attractive; a bed or border of it must be a brilliant object indeed on a bright, sunny morning. The single plant is of a branching, neat, slender, graceful habit, each branch bearing at the top a number of its beautiful, salver-shaped, scarlet blossoms, which, like all the other members of the flax family, open in the morning, remaining out during the day, closing up toward evening and dropping off, to be renewed next morning with dozens and hundreds of new blooms—and in this way it continues in bloom a long time—nearly throughout the summer. It is a hardy annual and of the easiest culture; may be sown under glass and transplanted a foot apart, or sown in beds where it is to remain, the plants being properly thinned out; thus, it must make a brilliant and beautiful bed. Both this and the varieties of perennial flax, *linum perenne*, are elegant and beautiful plants, and deserve a place in every garden."

The Ground-Nut Vine.

THE *Working Farmer* says:

"There is a slender vine very common in the Eastern States that is seldom used for ornamental purposes, to which we would especially invite the attention of the florist. It is called the ground-nut, (*apiostuberosa*.) Its foliage is dark, thick, and very graceful. The flowers are remarkable. They are dark purple in color and present a peculiar waxy appearance, in dense pedunculate, axillary racemes. Their odor is wonderfully sweet, and it is so powerful and inexhaustive as to fill perpetually the air. The vine entwines itself among low bushes in its native state. A florist of our acquaintance supplemented the charms of her trellises of roses by entwining these vines among the branches. Her rooms were filled with fragrance whenever the windows were thrown open during the whole of the hot season. The flowers of the ground-nut vine last for a very long period. Remember this vine during your summer rambles."

Ash-Leaved Maple, (Negundo.)

IN the rush for new and foreign trees, this, one of the most useful and beautiful of the maple family, has been overlooked. I have used it in various ways, as fuel, as posts, as vine stakes, for shade and for sugar, and think that it excels all of the maples in every one of the above qualifications, except the hard maple, and that in its rapid growth.

I have found from experiments that from sixteen to twenty quarts of sap will make a pound of nice white sugar, depending on whether the tree grew on dry or wet ground. The sap at first has a peculiar taste, disliked by most persons; but at the second or third trial can not be distinguished from the sap of the hard maple. With the same amount of boiling, the sugar is far whiter and of larger grain than any of the maples; the syrup, just before graining, can not be distinguished from strained honey, it is so clear and transparent.

The tree has no insect enemies that I am aware of, having never found the well-known maple borer on it. It is perfectly hardy, will grow in swamps, on the banks of streams, or on the highest hills, and thrive. But especially in the rapidity of its growth it excels all of the fast-growing trees, ripening from four to six feet of wood in a single season.

As to the durability of its timber, I would state that I have vine stakes two inches in diameter that have been in use four years and are still sound, while oak stakes set at the same time have rotted away. I use it quite extensively for posts, and think well of it. Another qualification that should not be overlooked is, that if the tree is cut down it immediately sends up shoots that are again ready for vine stakes in two years, and posts in five.

The seeds ripen in autumn and should be saved before the ground freezes, or mixed with damp sand in a box and exposed to frost; but planting in the fall is best, as the seeds start very early in the spring. The tree bears transplanting well, and will make a large growth the same year. The foliage is very dense, and resembles the ash; hence its name. It is the first to put forth in the spring and the last to drop in the fall. No one will be disappointed in planting the ash-leaved maple.—*G. W. Mackenzie, in Prairie Farmer.*

Effects of Charcoal on Flowers.

CHARCOAL, already well known to be of inestimable value as an absorbent or disinfectant, and likewise containing abundance of nutritious food for growing plants, has also a remarkable influence on the color of flowers. This fact is too well known to gardeners to require much repetition.

A few years since, a New-Haven gardener tried the experiment of the use of charcoal on the health of plants in pots in his greenhouse, and said that he could not possibly see the advantage of continuing under the old system without it.

"The result of my experience is, that, when not using charcoal in growing roses, they have been more or less subject to mildew, and the roots of the plants more apt to be injured by fungus, whereas with the free use of that material they are not liable at all to be attacked.

"And besides, when treated in this way the plants are remarkable for their freshness and beauty; the flowers are so much improved that they seem as though they had been

‘Dipped in Color’s native well.’”

We observe that the subject is again being discussed with practical interest in France, and we quote a paragraph from the *Revue Horticole*, of appropriate effect.

"A correspondent of that journal says that not long ago he made a bargain for a rose-bush of magnificent growth and full of buds. He waited for them to blow, and expected roses worthy of such a noble plant and of the praises bestowed on it by the vender; but when it bloomed, all his hopes were blasted. The flowers were of a faded hue, and he discovered that he had only a middling *multiflora*, stale colored enough. He therefore resolved to sacrifice it to some experiments which he had in view. His attention had been directed to the effects of charcoal, as stated in some English publications. He then covered the earth in the pot in which it was, about half an inch deep, with pulverized charcoal. Some days after, he was astonished to see those which bloomed of as fine a lively rose-color as he could wish. He determined to repeat the experiment, and therefore, when the rose-bush had done flowering, he took off the charcoal and put fresh earth about the roots, and waited for the next spring impatiently, to see the result of this experiment. When it bloomed, the roses were at first pale and discolored, but, by applying the charcoal as before, they soon assumed their rosy-red color. He then tried the powdered charcoal in large quantities upon petunias, and found that both the white and violet-colored flowers were equally sensitive to its action. It always gave great vigor to the red or violet colors of the flowers, and the white petunias become veined with red or violet tints; the violets became covered with irregular spots of a bluish or almost black tint. Many persons who admired them thought they were choice new varieties. Charcoal has no effect on yellow flowers."

It is not stated whether the effects are permanent, or whether they fail after a single season.

Bulb Catalogues.

It is not strange that the Bulb and Flower Catalogues of our florists and seedsmen are so attractive to the eyes of rural readers. Containing the "concentrated essence," in a few words,

of all that is practical and useful of floricultural knowledge, they form the very best guides and hand-books for the ladies and children in the preparation and care of the flower-garden.

Upon our table there are two—James Vick, Rochester, N. Y., and B. K. Bliss & Son, New-York City. Neatly printed, as usual, and freely illustrated, we have every reason to believe that their enterprise, taste, and liberality will warrant our readers the pleasure of an early acquaintance with them.

New Bedding Tropæolum.

"I HAVE just seen a grand new bedding tropæolum; it is a seedling from that most useful variety, Carter's Crystal Palace Perfection, a sort that rarely seeds; but the raiser of the new kind managed to save enough seeds to give him three seedling plants; of these, two were altogether unlike the parent, and quite worthless; but the other is identical in every respect with the parent variety, excepting that the flowers are of a brilliant dark crimson. It is a true trailer, creeps close to the ground, wants no pegging down, and is wonderfully floriferous."—*R. D., in The Florist.*

Plan for a Flower-Bed.

SELECT canna of sorts, ricinus of sorts, humea elegans, arundo donax variegata, tritoma uvaria, lilium auratum, and varieties of gladiolus. Choose any shaped bed, and arrange the above in any order desired, putting the canna or the ricinus in the centre, and the arundo donax in clumps scattered here and there; but trim the bed with centaurea ragurina and pine-apple beet planted alternately, and the effect will be unusually fine.—*The Florist.*

Abies Morinda.

A CORRESPONDENT of the *Gardener's Chronicle* records a description of a very fine abies morinda on the grounds of Joseph Smith, Shelsley Walsh, Worcestershire, near to the river Teme:

"It is a graceful and magnificent specimen, developed in all its beauty, and sparkling in the sunshine with hundreds of its vivid green cones from six to eight inches long. It measures nine feet in circumference at four feet from the ground, fifty-one feet in diameter in its branches, on the ground line; height, one hundred and ten feet; the bole rises twenty-eight feet without a bough; then branches out with great strength and vigor, giving to the trunk the appearance of a greater girth than above quoted. The branches bend gracefully down and kiss the ground, and on one side dip into the waters of a rill which is constantly running, and flows from the wooded heights behind. The side branchlets hang down to the length of fifteen to twenty feet, which gives a very elegant effect.

"The soil is clay, and of great depth. The situation is sheltered from the north and west, but perfectly exposed to the south-east."

Hints for the Month.

Orchard and Nursery.

In our northern climate, the harvesting of fruit is done with for this season, unless it be in exceptional cases, where no time should be lost in securing it. In more southern and warmer localities, the case may not be as urgent; yet after fruit has matured, there is nothing gained by leaving it out, as it will not keep any better; for it is considered, by the experienced, not as well as if picked and perfected in the house.

Late summer growth of fruit-trees is undesirable; and for this reason they should not be stimulated by late summer culture, manuring, etc.; but late fall and early spring culture is the better mode; then, usually, the wood ripens early and fruit-buds form, and are so advanced as to withstand severe winters. In all those sections where late summer and fall droughts have prevailed this season, if fruit-trees are examined, it will be noticed that the wood is well matured to the extreme end of new growth, and fruit-buds give promise of an abundance of fruit the coming season; so any thing that checks late growth conduces to early maturity and fruitfulness.

Now, before the ground freezes up for winter, is the time to dig over the orchard, especially around and under the trees, as far as the roots extend, with a long-tined digging-fork, working in manure of some kind; lime, slacked with water in which salt is dissolved to saturation, makes an excellent application; barely raked into the surface, it operates as a stimulant, while at the same time it is an insect-destroyer. In digging and working around the trees, be careful not to leave any hollows around the trunks for the water to settle into, as injury to the trees may result in its freezing. Always give a true descent away from the trunk, and no such accident can occur.

The pear-tree will be as grateful for manure as any kind of tree; indeed, no kind of fruit is more grateful for manure than is the pear-tree, increasing the productiveness in both size and numbers. Plenty of manure and moisture, together with judicious thinning of the fruit, is the great secret in successful pear culture.

Pruning may now be attended to, if hitherto neglected; our best cultivators, where fruit is an object in pruning, prune during summer while the tree is growing, and do much less than is otherwise often found necessary. In pruning a tree, a distinct idea of the form desired should be had, and the tree cut to conform therewith. Different species and varieties have some characteristic form, to which each individual conforms with greater or less exactness; in pruning, these characteristics should be well understood, and should have reference to preserving, or so varying them as to improve thereon to our advantage, although this is often a delicate task and may not be indiscriminately acted upon. In pruning, the difficulty is not so much what to cut, as what not to cut away, as we are more prone to overdo than not to do enough.

The pear-tree presents to us a different habit and form of growth from the apple generally, and demands a somewhat different principle in pruning. The standard pear usually grows tall, of fastigate shape, or the branches seem inclined to grow in toward the centre; in pruning, we should seek to remedy this, measurably, by cutting so as to induce the growth more horizontally, although, as the pear wood is inclined to be brittle, this should not be carried too far, or the weight of the fruit will operate unfavorably in cracking or otherwise injuring the limbs.

If any large branches or limbs are to be cut off from any tree, the cut should be made neatly, and be smoothly pared, and then covered with some impervious preparation, as shellac dissolved in alcohol, or rosin and shellac mixed and dissolved in alcohol and applied with a brush; the books will give recipes for other approved applications, etc.

When apples are plenty, there will be many that it will pay better to make into cider for vinegar than to make any other disposition of, and late made, from late fruit, makes the best for this or other purposes; it is best to make it before very cold, freezing weather, and store in a dry, warm cellar.

Seedling trees in the nursery, of ornamental varieties, especially evergreens, will be greatly benefited and protected through the winter by having an inch or two of sand or sandy soil spread over the bed.

A kindly shelter of evergreen boughs thrown over all kinds that are not perfectly hardy will be found beneficial, and will pay.

All out-of-door work should be finished up preparatory for the setting in of winter, such as under-draining, fall plowing, heeling in of trees and shrubs which can not be well disposed of or planted this season.

Fruit Garden.

THE fall is the time to buy your trees and small fruits, as then the nurseryman's stock is full, and a better selection can usually be made. To this there may be exceptions, as to all general rules; but generally you will be better able to obtain the kinds you desire, and you can better see what to select. It is always better to go to the nursery, when convenient, and make your own selection, as such matters are less satisfactorily performed when deputized; understand just what you want, and accept of no substitution.

Grape-vines are best pruned soon after the fall of the leaves; the cutting away is governed by the age, variety, and growth of the vine, and the object to be attained. In strong, rank-growing varieties, like the Concord, more and earlier ripening fruit is made from vines not very closely pruned, that is, cut back to one or two eyes; reasons are obvious, the vine expends its energies in recovering by new growth of wood, instead of fruiting; other less free growing kinds will bear closer pruning and give better quality of fruit.

All varieties do better if given some winter protection; not that the cold of the season injures them so much, but it is more from sudden changes and the direct rays of the sun. It is well, just before the ground freezes, to lay down all vines that are not perfectly hardy and give them a covering of an inch or two of sand or light soil; and others, have a few evergreen boughs thrown over them, first pruning according as you find the most profitable for your culture.

New borders may be prepared for vines this month, but our own preference would be to defer planting till spring rather than so late, in a northern climate; yet the borders may well be prepared by draining, deep working, and enriching with oyster-shells, old lime mortar, bones, etc. This for the amateur culturist. Vineyard culture is somewhat different, and it is generally thought not necessary to have the ground worked deeper than can be well and freely done with the turning and subsoil plow, and better fruit is generally conceded where the soil is generously but not over rich.

Strawberries, no matter how hardy, are much better if some protection is given through the winter, and coarse strawy manure, free of seeds, is perhaps the best, as then the rains, etc., wash out the fertilizing matter, the soil receiving it, and in the spring the straw can be raked off. All that is needed is to keep the rays of the sun off while the plants are frozen; any other covering which will serve the same end will answer.

Fruit-trees, as apples, pears, and quinces, should be examined before frosts set in to freeze up the ground, to see that borers have not effected a lodgment; if so, they should be dislodged with a sharp-pointed knife, or be followed in their mining and boring operations with a strong piece of wire. A little time spent in searching out and destroying them will well repay the trouble and expense; a man will go over a considerable sized orchard in a day.

Cuttings of currants and gooseberries made and set now, and covered with leaves, or like litter, for the winter, will form callouses at the ends of the cuttings, and be prepared to grow right away when growing weather sets in next spring. Cuttings of other hard wooded shrubs, as spiræas, prairie roses, etc., may be made and treated the same. A rather light sandy loam, well drained so that no water will lie on it any time during winter, is the preferable soil.

Lawn and Flower Garden.

Why is it that so many associate the fall of the leaf and year with the dreary in nature, as though there were not beauty and cheerfulness to be drawn therefrom? With many writers we perceive this tendency to gloom and less cheerfulness than of the earlier seasons. All seasons have their appropriate characteristics, and it should be our study to draw and inculcate lessons of wisdom and cheerfulness therefrom. The fall brings us the maturing and ripening fruit, together with the falling and rustling of the leaves, the whistling of the wind through the leafless branches of the trees, its plaintive voice as it breathes gently or more violently through the trembling pine, and also the departure of our gay summer feathered visitors to a more southern and genial clime; from all these we may draw many a charm which would compare favorably with our most cozy and enjoyable comforts of other seasons. As the leaves mature, they take on many a hue which exceeds any of the arts in imitation, set off against an Indian summer sky, and forming one of the most striking and agreeable landscape scenes to be imagined; and to watch the leaves as they fall and go twirling through the air, no pleasanter sight can be imagined.

To the neat and critic eye the scattered leaves have an unsightly appearance, when scattered and blown about the lawn; not reflecting that this is nature's mode of protection and restoring the fertility of the soil, or repaying the draughts that are made therefrom in their growth. They must be cleared up, notwithstanding, so that the grounds may have a more neat and trim appearance. The leaves are useful for other purposes; and if gathered and stored, can be applied without the fear of being blown away and lost to the soil that produced them. To mix with manure for hot-beds, or covering and protecting plants, cold beds, etc., they are excellent, and well repay the gathering and storing; and after becoming decayed, they make excellent material for mixing with soil for potting window and parlor plants.

The repeated mowing of the lawn grass may have weakened the roots, and removed fertility which should be restored in some way. A good compensation would be to give the whole ground an even dressing of the finest and best-rotted compost, *free of all seeds*; it may give an unsightly appearance at first, but in a short time it would be washed down so as not to attract attention, and by its protection and added fertilizing matter to the soil, compensate for any unattractiveness of present appearance in spring. Sometimes the lawn grass will be so far exhausted that this is insufficient to restore it; in such case the lawn will have to be broken up and re-seeded in the spring; but breaking up a lawn should be the last resort, when all others have failed.

Trim and tie up all ornamental shrubs and plants in the lawn that require attention; tender plants will need to be surrounded with straw made fast to them, laid down and covered with soil, or be encircled with pine boughs.

If any bulbs remain unplanted that are wanted for spring blooming, no time should be lost in planting, and doing it thoroughly well, giving a good covering of some kind of littersy manure. Some kinds will need more protection than others, as the more choice; tulips, crocuses, hyacinths, and narcissuses will need less, an inch or two of old litter being sufficient.

Tender rhododendrons, half-hardy roses, mahonias, and all tender evergreen or deciduous shrubs should be protected with mats, straw, etc.; some kinds it will be sufficient to stand pine branches closely around; the protection mostly needed being from the sun's rays. Some roses and climbers will need be laid down on the ground, and be held in place with forked pegs, and be covered with an inch or two of soil or other lighter covering.

The borders and beds should receive their final clearing up for the season, and be dug over, spading in a dressing of manure—the turning up the soil serving to dislodge and destroy insects, and also of the frost's ameliorating the soil.

All wood and other light trellises, stakes, baskets, etc., should be removed within doors and stored, ready for any needed repairs, repainting, etc., at leisure times during winter, as well as for their preservation.



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Our Christmas Evergreens.

BY ANNE G. HALE.

OF all the customs of the mother-land which have been grafted upon the faith of this younger country, the most beautiful is that of decorating our churches and our dwellings with evergreens at Christmas; and it is pleasant to notice how this custom, at once so reverential and so poetical, has latterly gained in favor. During many years the festival of Christmas was observed only by a small proportion of our people; for to the Puritans and their immediate descendants any conformity to the rites and usages of the English Church savored of popery, and was both sneered at and condemned by them. Now, however, nearly all Christians, without regard to name or creed, vie with each other in appropriate observance of this joyous occasion; and proudly display the verdant emblems which from remotest times have been acknowledged as types of that blessed gift brought down to us by Him who, by the assumption of our humanity, "hath opened unto us the gates of everlasting life."

For the keeping of this feast at the present time, as in the "merrie England" of Queen Bess, throughout the domains of Queen Victoria,

"The mistletoe hangs in the castle hall,
The holly bratch shines on the old oak wall."

But these graceful and beautiful plants are shy of our stern soil and blustering winds; north of Virginia they are seldom seen. In their stead we take our native club-mosses and glossy, persistent wintergreen, pyrola, and kalmia; with the *faithful* hemlock, as Longfellow styles it, and the pine, the fir, and the spruce.

Early in December, the woods and meadows are searched for these green things by troops of country boys and girls, who, during the long evenings preceding the last week of the month, weave them into garlands, wreaths, and other devices. If the village church is to be decorated, many happy hours are passed in fabricating of these materials various symbols of love and mercy, and hanging them upon its hallowed walls; while mirth and jollity prevail around the farmer's hearth as the old homestead is beautified by the long vines and festoons of verdure arranged by deft and tasteful fingers; and then those who have an eye to profit send their surplus greenery to market; in fact, many country towns now make the preparation of these decorations a regular business, and so varied is the assortment that the most fastidious of city churches and city homes need not fail of Christmas garniture.

Months previous, late in July, perhaps, or in August, many a good old grandame when

gathering herbs for the ailments of the villagers had plucked all the white everlasting flowers (*immortelles* of the French) that the rocky pastures and roadsides afforded, and tied them carefully in bunches, and then hung them in the darkness of her herb-closet, to keep the buds from expanding, for if fully unfolded the flower's chief beauty is lost. In October, the scarlet berries of the black alder were secured, perhaps strung by the children on strong thread; also the red hips of the wild rose and sweet-briar, and the purple-black berries of the smilax, together with the coral-like seed-vessels of the climbing bitter-sweet; and plenty of white reindeer moss collected from the swamps, and of greybeard moss from old forest trees, all to mingle with and illuminate the sombre evergreens. While, in September, purple and white amaranths, and golden and white eternal flowers, that had been planted and assiduously cared for in the garden plot, were gathered in the height of their glory, and laid away in shade and coolness to keep their splendor and purity undimmed and unsullied for the same purpose.

Then as the festival draws nigh some manly arm that can skillfully wield an ax brings from the forest the hemlock, whose graceful branches are so desirable, though its foliage falls so soon in the close atmosphere within doors; the pine, whose tassels make handsome fringes and festooning; the juniper, which, if less vivid than its companions, is yet very acceptable for its long defiance of heat and dryness; and the spruce and the fir, in their solemn and stately grandeur, not forgetting many a bush of kalmia or laurel, for its cheerful greenery is needed among the darker-hued boughs, and furnishes the neatest material for garlands, while, if supplied through the winter with nourishment in the shape of spring-water in a hyacinth glass, where the sun shines all the day, it will develop and perfect its blossoms for an Easter offering.

The pleasant German custom of erecting a Christmas-tree—a spruce-tree laden with gifts—has become popular among us, to the great delight of the children of nearly every household. A stalwart fir or spruce is best for this. It should be deprived of its lower branches to the height of two feet, and one foot of its trunk, thus denuded, firmly set in a tub of sand. Cover the tub by tacking upon it the cut off branches. Tie the gifts with stout strings, arranging them so that the largest and heaviest shall be nearest the trunk. If tapers are to be attached to the tree for its illumination be sure that nothing comes in contact with their flames; but it is better to dispense with them, and ornament the tree with fruit and parched corn, and other harmless confectionery, strung in rosaries and festoons upon the projecting boughs.

The prettiest Christmas garlands are those made by braiding the long vines of the common club-moss—generally called evergreen—taking three or more together, keeping the foliage of an average thickness by removing a leaf where two or three meet, and again weaving in another small vine if they are too sparse. And yet the foliage should not be dense—no thicker than that of a luxuriant vine. These braids are very beautiful, either for winding about pillars, festooning a room, or hanging around large articles of furniture or pictures.

To make a heavier decoration, a greater quantity of greenery is required, which must be stripped—the club-moss from its vine, the pyrola, wintergreen, and laurel from its branchlets; these varieties of foliage are pleasing to the eye when mingled tastefully in the same twine. The foundation of this must be a stout rope. Fasten one end to a firm support—a hook or nail in the wall, or something similar—and hold the rope in the left hand while surrounding it with leaves, which are kept in place by winding around them a strong and slender string; hempen twine is best. A foundation may be made by binding together several vine-stalks from which the leaves have been stripped; and the leaves may also be fastened by using a vine-stalk instead of twine. But these stalks shrink and often break in drying, and, consequently, the beauty of the decoration is impaired. In making this roping care should be taken to cover the rope with the leaves in such a way that each successive row hides the stems and twine of its predecessor till the whole is a mass of solid greenery. In the same way are heavy wreaths—the foliage so dense as to resemble plush—made of ground or prince's pine; the leaves for this, whether of these plants or of common evergreen, having been cut into two-inch pieces—the natural size is too thick and too long to use advantageously—and then set in a perpendicular position so as to present a close, even surface upon the wreath-frame. Small hoops from kegs, or strips of fig-drums, and larger ones of wire, cane, or skirt-springs

form the frame. Of the same material, crosses, stars, suns, triangles, anchors may be made; but narrow strips of thin pine board are better, which should be securely tacked together to make the design. After the frame is covered with the evergreen, the flowers, berries, and moss must be sewed among the leaf-stems with a stout thread.

A triangle, emblem of the Trinity, should have its three sides of equal length. The staff of a cross must be three times the length of the head, and each arm of the exact length of the head. A star is made by overlapping two triangles in such a manner as to present six equal points around an open hexagon. A sun is formed from a circular hoop to which narrow strips of board of regularly varied lengths are attached for rays. An anchor is merely a cross with a semi-circle attached to its base for feet, and a small ring at its head. A very beautiful design is a wooden cross covered with white or gray cloth, or paper, a vine of braided evergreen being arranged as if growing at its base, and trailing and drooping over it. Or the white or gray cross, without the vine, may be surrounded by branches of hemlock or spruce cut to the form of wings or of flames.

Letters and monograms cut from pasteboard and covered with green cloth or paper are much used as Christmas decorations. They are handsomer made, very slender and evergreen leaves, or small twigs of spruce, or fir, or laurel, sewed upon them in such a manner as to remove their stiff and formal appearance, giving them a careless, rustic air; but the most beautiful arrangement for a monogram or a motto is a piece of white cloth either hung smoothly or drawn into graceful folds or festoons, upon which the letters have been traced with a coarse pencil, the tracery being covered by a tasteful combination of leaves and twigs, with or without the illumination of berries, amaranths, and eternal flowers; the whole being sewed to the cloth with strong thread, and the cloth fringed with pine tassels gathered closely along a knotted cord.

Christmas bouquets of spruce, or juniper, or the prince's pine, with branches of alder-berries or of the seed-vessels of the climbing bitter-sweet, and amaranths and eternal flowers interspersed among them, are peculiarly appropriate as gifts to the sick at this season, or for adorning the graves of the beloved departed. Bearing their verdure and brightness undimmed and unharmed amid the frosts and storms of winter, are they not fit emblems of that life over which death has no power, and of that blessedness which knows no change and no decay?

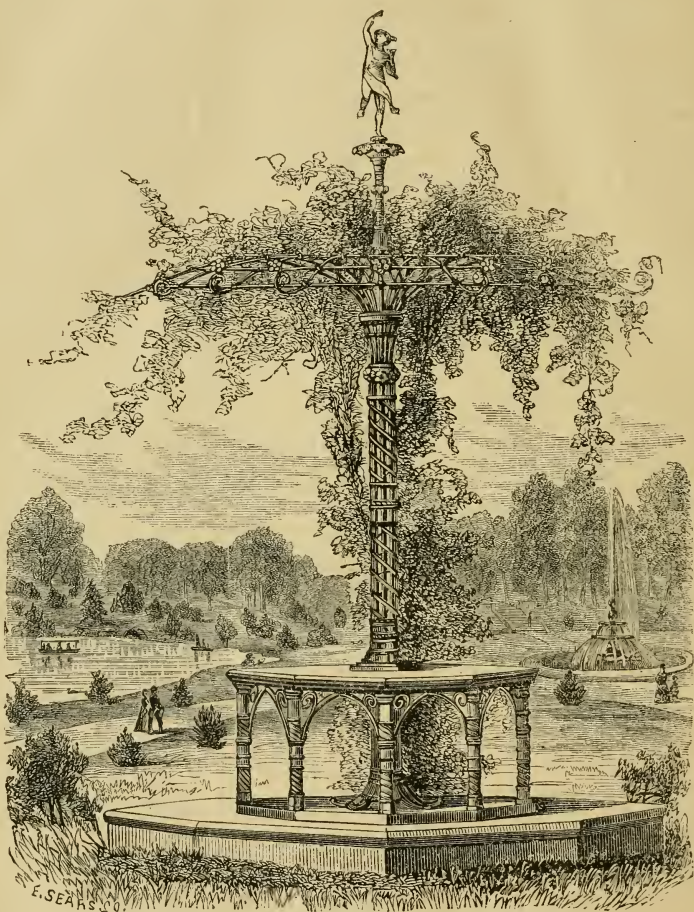
More appropriate expression of our faith, and of our joy in that faith, earth does not afford than is found in these types of unfading strength and beauty; surely it is meet at this time to surround ourselves with them and to extend them to our friends.

The Eumelan Grape.

THIS is the second year that I have grown this new variety. My experience with it thus far may be thus expressed; it is a very vigorous grower, the first year making about seven feet, and the second, about twenty-five, of stout, firm, and remarkably short-jointed wood. The leaf is very dark, thick, and tough, and has thus far shown not a trace of disease. The vine set this year nine clusters, all of which were allowed to remain, as the vigor of the vine, it was thought, would fully warrant it. While in flower, there was a long, cold rain-storm. Those clusters on the upper portion of the trellis, where they had no protection from the storm, were small, and the berries were thinly set. But below, where the leaves afforded some shelter, the clusters were of good size (two or three, say, of half a pound each) and almost as compact as Delaware. The berry is about the size of Hartford, and of a very delicate character and superior flavor. The fruit ripened with me before the Hartford; but the exposure of the two vines was different; the Eumelan standing in the open ground, and facing the south, the Hartford standing about two feet from a building, and facing west. On the whole, taking into consideration the vigor and healthfulness of the vine, and the character and earliness of the fruit, my brief experience would lead me to pronounce it the best black grape that has yet been brought to the notice of the public.

READING, MASS.

W. H. WILCOX.

*Design for a Garden-Seat.*

GARDEN-SEATS form a very pleasing and important part in rural embellishments, adding variety, rustic grace, and at times exquisite beauty. Placed in some shady nook, surrounded by protecting hedges or flowering shrubs, or borders of gay flowers, they invite to retirement and a happy enjoyment of the quietness and contentment of rural life. The design we here present admits a more extended landscape than that of a garden, giving us a view of the park and grounds of a rural proprietor, with the accessories of fountain, lake, and lawn, while the forest is in the distance. The frame, as will be readily seen, is constructed entirely of iron, while the overhanging canopy is covered with the clusters and leaves of some climbing vine.

New Western Fruits.

DURING the last few years much interest and anxiety has been felt by fruit-growers of the West as to sorts to plant upon which they could rely, feeling that their labors would not be in vain, but that they might eat of the fruit thereof in due season. Happy to say that we now have many sorts which, thus far, have proved quite satisfactory, and are bearing regular uniform crops. Many of our fruit-growers are turning their attention to seedlings, experimenting with the different sorts with an especial reference to finding something adapted to the fickleness of our climate as well as desirable for culinary use. The State Horticultural Society, in offering premiums, has had the effect to bring out a large competition, among which have been some apples worthy a more extensive trial. Another source from whence we hope much is in some of the Russian sorts. Grafts from this northern country have been imported, and are now growing in this State. It is to be hoped that some may prove of inestimable value to our climate. A. G. Tuttle, of Barraboo, is, we believe, laboring assiduously in this direction, and has confidence in the most favorable results.

Still another source from whence we are looking for like favorable results, and which has already been crowned with success quite satisfactory, is in the improvement of the Siberian crab-apples. Much has already been done in this direction, more probably will be; but we find already something to record which shows progress. At the last State exhibition, held Sept. 27th, five varieties of the Marengo Winter Russian apples were exhibited by Dr. C. Andrews, of Marengo, Illinois. The largest of these, christened "Marengo," was, we believe, first figured and described some time since by Mr. Elliott, in *THE HORTICULTURIST*, as the "Marengo Winter Crab," being the first full description of any specimen of fruit belonging to the Siberian species ever published in this country. The specimens shown here are much larger than the one figured in *THE HORTICULTURIST*, having improved, we are told, since the tree has received cultivation. Gathered at this date, however—Sept. 28th—they were not fully colored, nor fairly done growing.

Four other varieties, named respectively Chicago, Coral, Winter Gem, and Kishwaukee, have been added to this group of Winter Siberians since the original discovery. The term crab has been dropped, and it seems not without reason, as the improved Siberian sorts are gaining a popularity for cooking and dessert qualities equal, if not exceeding, those of the common sorts that can be grown in the North-west. These winter varieties of the so-called Siberian crab, until lately an entire novelty in pomology, so opportunely brought to notice by Dr. Andrews, and the interest excited by the facts published through *THE HORTICULTURIST* and in his circular, has had the effect to put the whole horticultural fraternity on the *qui vive* for new Siberians, and already some scores have been figured and described by our leading pomologists in various horticultural journals. Nearly every State fair in the West brings out new varieties by the dozen or hundred. Dr. Warder has taken the outlines of some twenty new sorts of promise at this fair, and there are on exhibition forty-seven varieties by actual count. Among these are some new fall sorts of decidedly high merit as dessert fruits, especially Plumb's No. 1 and 2, which are delicious, subacid, fine grain and tender; also Brier's Sweet, which measures two inches and a quarter in diameter, very sweet and rich.

The Coral, which we are told keeps till February, is more beautiful than the lady-apple, and rich in vinous flavored juice, was given away to the crowd, and eaten by connoisseurs, who all expressed surprise that a "crab" could be devoured with such gusto, even after tasting the ripe luscious apples and grapes from other tables.

We congratulate the whole country on the addition of these peculiarly hardy fruits to the list of our staple luxuries. The demand for such fruits will not be confined to particular regions. They are valuable in every section, and especially so in the extreme North-west. The only, and we may say the great danger, lies in running after these sorts too exclusively, and to the neglect of some others much better, which in some cases might be substituted; but even in this case, the Siberian sorts will serve a good purpose, namely, as stock to work the other varieties on; so with all fidelity to the one great object in view, a plentiful supply of fruit for the masses, we say press on, import, plant seed, hybridize, or any thing else, no matter what or how, so that we have good fruit, and that in abundance.

MADISON, WIS.

O. S. WILLEY.

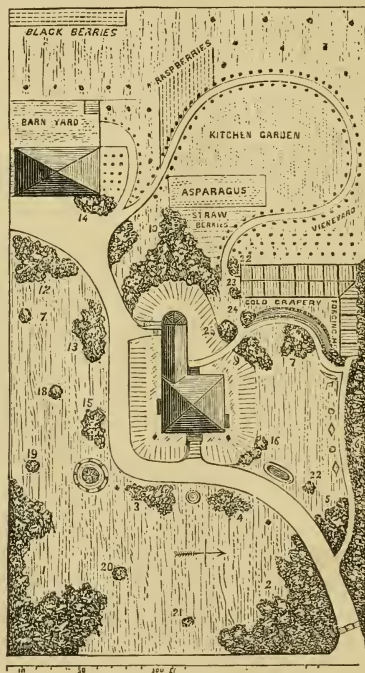
Design for Improvements of Villa Ground.

BY ROBERT MORRIS COPELAND.

WHOEVER contemplates making a country place feels an interest in the plans and methods adopted by others for laying out their grounds, and while any plan for the treatment of a plot of land may have value in so far as it shows possibilities, a fancy plan which is made to illustrate some theory of plantation or for amusement is less valuable as a guide or educator than one which has been made to meet actual wants or necessities. I might easily imagine a picturesque surface where hill, meadow, water, and forest would blend into a beautiful landscape; but I think, for the reason I have given, that this would not be fair to the reader, taken for consideration which came to me, where the condition favorable to my art as The place representing plans covers an land on the very summit and long, and laid out by the present owner. The top one owns a large terrace place to treat, be-views in all direction will hide some- to see, and yet no tion and shelter more

The estate in larly fortunate in hardy to manage to eastern and south-Boston harbor, dotted south is Milton Hill, try-seats and villages west, many miles of uring Roxbury, town, Prospect Hill hill country about weather, Wachusett tains as salient points ton, Charlestown, and north, and give city the harbor or the any trees might prove obstruction. But it north-east and north houses and barns which, as they injure the panoramic beauty of the landscape, should be concealed, and therefore give a chance for trees. Following the usual practice, the original proprietor set up two gates of entrance, which he connected by a curved avenue. It seems to be considered essential by most persons to have two gates for convenience of entrance and exit. The convenience is undeniable, but is generally counterbalanced by an unnecessary amount of road, and by the separation of the land between the gates from the rest of the place, converting it into a kind of island, too small of itself for any special treatment, and so disconnected that it can not be harmoniously combined with the rest of the grounds.

Diverging from the avenue of approach was a road to the stable, completely surrounding



the house, making an island of it surrounded by a river of gravel, wasting a good deal of land, and excusable only for ease in turning a carriage or as a short cut to the barn, when the whole length of the place was not enough to make any shortening of distance desirable. All the road round the house was wasted land, and forbade any privacy to the members of the family when out of doors. The easy turning of the carriage should be provided for; many clumsy persons can hardly get round on a road, and all like to turn without the necessity of backing in order to change direction. But as I think quiet and retirement of more consequence than the occasional inconvenience in turning a vehicle, and as every foot of land put into road and paths is a direct loss to the lawn, garden, or plantation, I have, in planning these improvements, left out one avenue to the street, and all the road round the house, giving a space in front of the stable sufficiently wide and long for a turn.

From the house to the west the land falls very rapidly, there being 30 feet difference in level between the western boundary and the sill of the house; and yet this slope is the only place for a garden. The owner desired a green-house and grapery, which I have placed near the top of the slope, where the levels begin to change most rapidly, giving an opportunity for placing a span-roofed house with a wing for forcing, and hot-houses, without requiring a very great change of surface; to economize the land, give easy access, and avoid undue washing of gravel, I have carried the paths in as gentle curves as possible along the face or slope of the hill.

As the house occupies the crest of the hill, it was sustained, when built, by high terraces, two sides of which are ascended by long flights of steps.

This analysis of the place as I found it renders any other description of my plan than is shown by its study with the aid of the index unnecessary, excepting in relation to the plantation and the flower-beds. Such a working plan as illustrates this description gives the exact situation of each tree and shrub, which is shown unmistakably by a proper symbol; but to describe the groups, with their detailed planting, would take too much space; therefore I must be content to give the groups, with the names of the plants of which they are composed. To simplify as much as possible, I have numbered the groups and specimen trees, and will take them up in their proper order.

The flower-beds are planted in colors—in spring, with bulbs; and in summer, the particular colors desired are obtained by using plants with colored leaves, like *Centaurea*, *Coleus*, etc., or which blossom freely and for long periods, such as *Lobelia*, *Verbena*, *Feverfew*, *Alyssum*, *Mignonette*, etc. The groups of trees are thickened, particularly along their margins, with shrubbery, which is made close by the introduction of perennials, like *Canterbury Bell*, *Fox-glove*, *Delphinium*, *Phlox*, *Hollyhocks*, *Dahlias*, *Cannas*, etc., etc., some *Lilies*, *Gladioli*.

By these combinations it is possible to insure a steady succession of bloom; and as the trees or shrubs overgrow or crowd, they can be removed, or else the flowering plants withdrawn.

Group No. 1.

Deciduous Trees.—1 Turkey Oak; 1 Eagle's Claw Maple; 1 Fringe-Tree.

Deciduous Shrubs.—1 *Viburnum Opulus*; 1 Smoke; 1 *Viburnum Lentago*; 1 *Crateagus*, (Washington Thorn.)

Evergreen Shrubs.—1 *Juniperus Squamata*; 1 *Mahonia*, golden-striped; 1 American Holly; 1 *Thuja Siniensis*; 2 *Kalmia Angustifolia*; 1 *Kalmia Glauca*; 2 *Andromeda Paniculata*; 1 *Juniperus Suecica*.

Evergreen Trees.—4 *Abies Canadensis*; 1 *Pinus Cembra*; 1 *Retinospora Picifera*; 3 *Juniperus Siniensis*; 1 *Pinus Mugho*; 1 *Picea Aphalonica*; 1 *Thujopsis Borealis*.

Group No. 2.

Deciduous Trees.—2 Copper Beech; 1 *Magnolia Glauca*; 2 Fringe-Tree; 1 European Larch; 1 Judas Tree; 1 *Larix Laricina*; 1 Mountain Ash; 1 Cut-leaved Birch; 1 Variegated Maple; 1 *Acer Negundo*.

Deciduous Shrubs.—1 *Deutzia Crenata*; 1 *Deutzia Scabra*; 1 Sweet Briar; 1 *Sambucus Canadensis*; 2 Washington Thorn; 1 Double White Thorn; 2 *Cydonia Japonica*; 1 *Clethra Alnifolia*; 1 *Cornus Circinnata*; 1 Snow-Ball; 1 *Sambucus Pubens*; 1 *Althea*; 1 *Azalea Nudiflora*; 1 Bayberry; 1 Shad.

Evergreen Trees.—*Retinospora Picifera*; 1 *Juniperus Siniensis*; 1 *Picea Pichta*; 1 *Picea Nordmaniana*; 1 Dwarf White Pine.

Evergreen Shrubs.—1 *Thuja Suecica*; 3 *Rhododendron*; 1 *Kalmia*; 1 Golden-striped *Mahonia*; 1 *Sambucus Argentea*.

Group No. 3.

Deciduous Shrubs.—2 *Azalea Pontica*; 1 *Tamarisk Indica*; 8 Perpetual Roses; 1 Double-flowering Almond; 1 *Deutzia Corymbosa*; 1 Shrubby Cinquefoil; 1 Black Alder; 1 Snow-Ball; 1 *Spirea Hypericifolium*; 1 *Hypericum Kalmianum*.

Evergreen Shrubs.—1 Silver Box; 3 *Andromeda Floribunda*; 1 *Juniperus Tamariscifolia*; 1 *Wigelia Rosea Nana*; 2 Golden-striped *Mahonia*.

Group No. 4.

Deciduous Shrubs.—3 Perpetual Roses; 1 *Deutzia Gracilis*; 1 *Forsythia Viridissima*; 1 *Tamarisk Indica*; 2 Black Alder; 1 Yellow-berried Barberry; 1 *Aralia Spinosa*; 1 *Viburnum Lentago*; 1 *Spirea Prunifolia*; 1 *Cornus Paniculata*; 1 *Viburnum Acerifolium*; 1 Double-flowering Almond; 1 *Daphne Mezereum*; 1 *Azalea Pontica*.

Evergreen Shrubs.—1 *Juniperus Depressa*; 1 *Retinospora Ericoides*; 1 *Prinos Glabra*; 1 *Mahonia Aquilegifolia*; 1 *Kalmia*; 1 *Evergreen Azalea*; 1 *Mahonia Aquilegifolia*; 1 *Wigelia Rosea Nana*.

Group No. 5.

Evergreen Trees.—1 *Pinus Mugho*; 1 Hemlock; 1 Red Cedar.

Evergreen Shrubs.—2 *Andromeda Paniculata*; 1 *Andromeda Cataëbii*; 1 *Juniperus Suecica*; 1 *Prinos Glabra*; 1 American Holly; 1 *Taxus Aurea*, variegated.

Deciduous Trees.—1 Copper Beech; 1 Variegated Willow.

Deciduous Shrubs.—Red-berried Tartarian Honeysuckle; 1 *Dielytra*; 1 *Forsythia Viridissima*; 3 Bayberry.

Group No. 6.

Evergreen Trees.—1 *Abies Excelsa*; 1 *Juniperus Excelsis*; 1 Austrian Pine; 1 *Arbor-vitæ*; 1 White Pine; 1 Double White Pine; 1 *Pinus Cembra*; 1 *Abies Compacta*; 1 *Juniperus Siniensis*.

Evergreen Shrubs.—1 *Andromeda Cataëbii*; 2 *Andromeda Paniculata*; 1 American Holly; 1 *Thuja Siniensis*; 1 *Mahonia*; 5 *Andromeda Floribunda*.

Group No. 7.

Evergreen Shrubs.—1 *Retinospora Picifera Aurea*; 1 *Taxus Baccatus*; 1 *Mahonia*; 1 *Retinospora Ericoides*.

Deciduous Shrubs.—*Azalea Pontica*; 1 *Forsythia Viridissima*; 1 Shrubby *Hypericum*; 1 *Dielytra*; 2 *Calycanthus*; 1 *Cornus Florida*; 1 *Caragana*; 3 Perpetual Roses.

Group No. 8.

Deciduous Shrubs.—3 Perpetual Roses; 1 *Azalea Pontica*; 1 *Deutzia Crenata*.

Evergreen Shrubs.—1 Golden-striped *Mahonia*; 1 *Thuja Aurea*.

Group No. 9.

Evergreen Trees.—1 *Abies Excelsa*; 1 *Pinus Mugho*; 1 *Cupressus Lawsoniana*.

Evergreen Shrubs.—1 *Kalmia*; 1 *Thuja Suecica*; 1 *Juniperus Communis*; 1 *Andromeda Cataëbii*.

Deciduous Shrubs.—1 Red-berried *Euonymus*; 1 *Azalea Pontica*; 1 *Deutzia Scabra*; 1 White-berried *Euonymus*.

Having given in the foregoing groups a sufficient example of the variety of trees and shrubs used in planting these grounds, I will close the enumeration with the list of those which are to stand singly: No. 17, *Pinus Laricio*; No. 18, *Magnolia Soulangeana*; No. 19, *Juniperus Communis*; No. 20, *Gymnocladus*; No. 21, *Picea Pinsapo*; No. 22, *Picea Nordmaniana*.

It is proposed that vines of various kinds shall be trained over the house and barn ; vases for flowering and foliage plants will occupy suitable and conspicuous positions, and the flower-beds be maintained full of rich color and fragrance by a free use of colored-leaved and free-blossoming bedding plants.

The plan and its indexes show the proprietor just how to do the work in order to give the most desirable effects, but a description here would tire rather than instruct the reader. I have said nothing of the minutæ of the kitchen garden, as there is nothing peculiar in its treatment other than that I have grouped the plantation in a rather picturesque manner, and have abandoned the usual straight lines and right angles in favor of curves which can be more readily accommodated to the surface.

R. M. COPELAND.

A Romance of the Violet.

CONNECTED with the history of the Napoleonic rule in France is a delightful little romance of the violet, explaining why it is now so well recognized as the favorite flower of the French.

The violet with us is only a spring flower, blooming almost under the shadows of overhanging snow, but slowly melting away ; but a Parisian winter is a milder one than ours, often seeming but a gentle glide from fall to spring, with but few blasts between. Autumn lingers until December, and spring begins in January. In the New-Year holidays, there may be seen at the corner of the Boulevards, and on the principal streets, perfect mountains of violets, which completely hide the sellers. The violet then blooms almost everywhere in Paris ; every true imperialist, whether lady or gentleman, wears a bunch of violets ; but it is only in the Faubourg St. Germain, the residence of the descendants of the old Bourbon king, that no one buys violets ; the flower-girls know it would be useless to go there ; for the violet, modest as it is, has a political significance : it is the *Napoleonic flower* above all others, and the violet is almost inseparably connected with the history of the first Napoleon, and that of the present emperor.

We translate the story from the German of Doctor Ebeling :

"Some years ago, a numerous company of distinguished guests often met in a pretty villa belonging to a Spanish family, close to the Seine at Passy. The duchess was a most agreeable hostess, and her two beautiful and accomplished daughters, like a double magnet, attracted all hearts.

"There was often great excitement in the brilliant saloons ; ladies and gentlemen, old and young, had eyes and ears only for one man, who now jested with his hostess, now chatted confidentially with some other lady, now formed the centre of a group of gentlemen, who all gave way to him respectfully. When he spoke, there was a dead silence, as if a monarch were present. He wore a plain black coat, like the other gentlemen present ; but on his breast was a small silver star, half concealed, as if it hardly dared show itself. The servants bowed nearly to the ground when they offered him ices or lemonade, and called him 'Altesse ;' the guests merely said, 'Monsieur le Président.'

"Louis Napoleon (for it was he) came more and more frequently to the villa at Passy. It was soon remarked that the chief object of his visits was the elder daughter of the house. The Princess Eugénie herself perceived this ; but at first her Spanish pride induced her to reject the President's attentions, although he was already talked of privately as heir to the imperial throne of Napoleon. But the prince must have inherited something of his uncle's conquering talent in this respect also ; for one evening, at a brilliant assembly at the duchess's, the Princess Eugénie appeared in an exquisite 'violet toilette,' if I may be allowed the expression—violets in her hair, violets looping up her dress, and the historical, significant bouquet of violets in her hand. The prince understood this language of flowers ; the princess had accepted his offer of marriage.

"Another year had passed, and on a bright starlight evening in December, an immense line of carriages made their way from the Palais du Sénat, through the Champs Elysées, to St. Cloud, to make known to the Prince President the result of the plebiscitum which made him Emperor of the French, and one of the chief rulers of Christendom. The violet had triumphed once more over the lily.

"And at length, after a few more months, a state carriage, drawn by eight white horses, and followed by an immense and splendid *cortège*, drove down the Rue de Rivoli toward Notre Dame. In the carriage sat the Emperor, and beside him the Princess Eugénie, whose most brilliant dreams had given place to a yet more brilliant reality. In another hour she had exchanged her violet wreath for the imperial crown.

"The fifteenth of November is the Empress Eugénie's nametday, and violets are then perceptibly dearer in Paris. In the earlier days of the Second Empire there was a perfect violet ovation on that day; bunches of violets, not in hundreds, nor in thousands, but in tens of thousands, were thrown through the iron railings of the court-yard of the Tuileries. The palace servants piled them up into enormous pyramids, which reached as high as the first-floor windows; the various doors were decked with them, and the great central balcony, from which the empress greeted the people, seemed made of violets.

"Pinaud, who is the first perfumer in Paris, and employed by the court, scents almost all his essences, pomades, etc., with violets. It is said that in the duchy of Parma, the finest violet-growing country in the world, Pinaud possesses large fields planted with violets, which when in flower perfume the district, and transform it into a vast blue carpet. But who can tell whether the Italian war may not have laid waste those lovely fields, if only to execute vengeance on the principle of absolutism which those flowers symbolize? But let us leave politics, and explain how the violet came to be chosen as the badge of the Napoleonic dynasty.

"It was in the early days of the present century. The great general, Napoleon Bonaparte, who, as he himself boasted, carried the fate of France and Europe at his sword's point, had already been elected First Consul for life, and was rapidly advancing toward the imperial throne. His wife, the never-to-be-forgotten Josephine, was living at Malmaison; he himself inhabited the Elysée, (he never lived in the Tuileries until after his coronation.) Bonaparte rode almost every day to Malmaison, accompanied only by one servant, or perhaps by the faithful Rustan.

"One February morning the First Consul was on his way to Josephine, riding faster than usual, for he was late. The cause of his delay was a bouquet of violets which he had expected from Versailles, and which had not arrived. In those days violets in winter were rarities, and it was impossible to get them from ordinary gardeners. Bonaparte, however, had a promise to perform; it was Josephine's name-day, and when a few days before he had asked what present he should bring her, she had replied, 'Only a bouquet of violets.' And now he could not fulfill this simple request—he who a year later was to present her with an imperial crown! Two messengers had already been dispatched to Versailles; Bonaparte was worse off than Louis XIV., for he really was obliged to wait. Just then he received from an unknown hand a magnificent bouquet of violets, ten times more beautiful than the Versailles flowers would have been. The consul, surprised and touched—could he guess the giver?—sprang on his horse and galloped to Malmaison; there he found that the friends of the family, who of course were many, had brought splendid presents. Bonaparte entered, embraced his wife, and presented the bouquet with a smile.

"Napoleon's great love of violets dated from this incident. That particular bouquet was taken care of like a pet child, by his special desire. When at length it faded, Josephine, although she could not comprehend her husband's sudden passion for violets, took care to procure fresh ones; and after she became empress, she still had violets always about her.

"Afterward, when a fatal policy had thrust her from the throne, and she had retired desolate and unhappy to Malmaison, gardening was Josephine's favorite occupation, and the violet her favorite flower. And when, after a few years, she died of a broken heart, violets were planted on her grave; and now violets bloom around the mausoleum which has lately been erected over her last resting-place.

"Even at St. Helena, Napoleon planted violets; and when his coffin first touched French soil at Cherbourg, it was covered in a few minutes with bouquets and wreaths of violets.

"Under the Restoration, the white lily once more raised its stately head, and under the prosaic government of July no one troubled himself about flowers; but with the Second Empire the violet regained its place of honor.

"In November, 1848, there was great excitement throughout Paris, for the president of

the new republic was about to be elected. The bloody days of June were still fresh in the memories of all, and the future fate of France appeared more than ever uncertain. Every one anxiously wondered whose name would head the list—whether the new ruler would be Cavaignac, with government by the sword; Louis Blanc or Ledru Rollin, with socialism or communism, or, finally, Louis Napoleon, with a second empire. The prince was walking uneasily up and down a room in the Hotel du Rhin in the Place Vendôme. On the chimney-piece and window-sills stood costly vases filled with violets—an attention of the landlord's, which in after days was not forgotten by the emperor. A few faithful followers surrounded him; Persigny, Morny, Dr. Conneau, etc. 'These flowers are a sign of good fortune,' said the prince to Persigny, as he pointed to the violets, and immediately a tumultuous crowd came on its way from the Hotel de Ville, where the adding up of three million votes had just been completed; nine tenths were for Louis Napoleon. The violet was again a conqueror, and to-day it remains the floral emblem of the French empire."

Davison's Thornless Black-Cap Raspberry.

FOR an early and profitable black-cap raspberry, the Davison Thornless has proved, with the experience of the past two seasons, the very best. Like many other new varieties, somewhat discouraged at first, it has after a while proved its good qualities, and sustained all that has been claimed for it. We have found it exceedingly vigorous in growth, quite productive, but not as much so as other varieties coming later; very early, from one week to ten days ahead of the Doolittle; very large, black, with considerable bloom, and fine sweet taste. In early fruit localities, its cultivation for a market where black-caps sell at all, will be very remunerative. It seems to succeed best on a moderately rich loam; for on light soil, as well as a more heavy wet bottom, its growth is weak. Cultivators this year report varying success with it, but the majority of instances coming under our notice seem to pronounce it successful and worthy of general cultivation.

My Garden.

FOUR years ago, I laid out a new garden on the site of an old one, built a high fence around it, subscribed for *THE HORTICULTURIST*, and read the advertisements, inclosed half a dozen dime currency notes to as many nurserymen for illustrated catalogues, and from the information thus obtained proceeded to stock my grounds with vegetable, fruits, and flowers.

While the results have been quite satisfactory to myself, and a source of enjoyment to my family, they have not been sufficiently brilliant to merit publicity; yet as some of my experiences differ materially from those generally received, I have taken the trouble to make a note of them.

My stock of strawberries consists of the Lady-Finger, Hovey, Philadelphia, Wilson, *Agriculturist*, *Triomphe de Gand*, Knox's Jucunda, and Kitley's Goliath.

Of these the two first, inextricably mixed and cultivated in broad rows for three consecutive years, have furnished large and increasing crops of small but deliciously-flavored berries, remaining in bearing from three to four weeks.

The Philadelphia, a strong and healthy grower, is quite as prolific, with much larger berries, but slightly inferior in flavor.

The Wilson grew enormously, and bore a handsome crop the second season. Although carefully cultivated in hills and protected during the winter with forest leaves, its growth the following year was spindling and its produce very inferior in size and quantity.

As it is sour at best, I shall discard it next year, or give it to some of my neighbors, with whom it may succeed better.

The *Agriculturist* has grown thriftily, and fruited two successive seasons with numerous



Davison's Thornless Black-Cap Raspberry.

berries from four to five inches in circumference, ripening with the earliest and lasting the longest of any, and is beyond all comparison the firmest, juiciest, and highest-flavored berry I have ever tasted.

We slice the larger ones like pine-apples, sprinkle with a little sugar, and eat without cream, the better to enjoy their fine aroma.

The *Triomphe*, *Jucunda*, and *Kitley I* have grown from potted plants, sent from Knox's nursery last spring. They fruited a dozen or more fine berries each, of good quality, but not comparable with the *Agriculturist*.

My experience in raspberries has been more in accordance with received opinions. A row of improved black-caps has been my chief reliance thus far. My yellow stock bore meagre crops of dry, tasteless berries; while my reds, still worse, proved to be the *Allen*, which suckered beyond all bounds, bloomed profusely, and set no fruit for two successive seasons.

This spring I had them dug up and thrown away, when several bushes which had been inadvertently left standing fruited handsomely, surpassing in quantity, size, and flavor any that I had in the garden.

On the 23d of April, I received from J. Knox's nursery a stock of *Brinckle's Orange*, *Kirtland*, and *Red Antwerp* canes. They were already in leaf, and, after a journey of four hundred miles by rail, were transplanted without any apparent check to their growth. The *Orange* fruited enough to show its quality; but owing to the unprecedented drought, grew spindling, and half the canes died.

In the same ground the *Kirtland* grew thriftily, with shoots six feet high, and yielding several quarts of fruit, which ripened serially from the 24th of June until the 10th of September. From the taste and appearance of this berry, I should say it is identical with that which grew in my father's garden forty years ago.

Besides these, and notwithstanding the burning drought, the *Red Antwerps* bore and ripened fruit for two months; berries of fine size and quality; throwing up from one to half a dozen shoots from each root, many of them over six feet high, and thicker than a man's thumb; so stout and stiff that they can not be bent down to receive the usual winter protection.

Although this region is overgrown with wild blackberries, our amateurs have introduced the *Lawton*, *Wilson's Early*, and *Kittatiny* on trial, besides the white blackberry, a beautiful horticultural paradox from South-Bend, Illinois, with tresses of fruit like netted pearls—very sweet but rather insipid. None of the exotics have as yet shown fruit to compare with the native stock.

I have four varieties of the latter on trial in my garden. One of these is so unique in form that I send a drawing of it. It grows in a secluded lo-



The Berkeley Blackberry.

cality, its canes of blood-purple color, rather slender, and of dwarf habit. The berry is composed of very small compact granules, and from its shape is generally mistaken for the mulberry. It is, however, a true blackberry, sweet and well flavored, and has been christened the *Berkeley Blackberry*.

In November, 1866, an itinerant nursery agent sold me twenty grape-vines well rooted, carefully packed in moss, and neatly labeled, to wit, ten *Delaware*, three *Iona*, three *Union Village*, two *Diana*, two *Rebecca*.

They all grew handsomely, and were trained on cedar posts about ten feet high with side limbs projecting—a very convenient and picturesque trellis. I had arranged the vines so as to show the black, red, and white fruit in pleasing contrast, and this spring was charmed to see them all covered with bloom. In due time came the fruits, and I was puzzled to observe the close similarity of habit in all these well-defined varieties.

I was still more astonished in September to see all my grapes turn black; but as the fruit was uniformly large, healthy, and well flavored, and my family and neighbors enjoyed the eating of about six bushels of the best Concords we ever tasted, I don't think the rogue made much out of us, after all.

Some notes on the shrubs, fruits, and flowers of our wild mountain nurseries, where every thing may be had for the digging, I will reserve for a future communication; and as the value of all horticultural experience depends in a measure on soil and climate—except perhaps the case of the “grape purchase”—I must not omit to state that my place is located in latitude $39^{\circ} 30'$, longitude $1^{\circ} 5'$, west of Washington, in a narrow valley overshadowed by mountains about eight hundred feet above the ocean tides, with a soil of yellow, slaty clay, naturally very poor, alternating with a black, sandy loam of better quality on the mountain terrace, which we usually mix in forming our gardens. The winter climate is sharp for Virginia, but somewhat modified by the copious stream of tepid water flowing down the valley from the famous fountains of Berkeley.

DAVID H. STROTHER.

BERKELEY SPRINGS, WEST-VIRGINIA.

Ripening Winter Pears.

FROM THE RURALIST, CINCINNATI, O.

MORE difficulty has been found in preserving winter pears and bringing them to a fine eating condition than some others of our winter fruits. Some good cultivators are so unsuccessful as to question the propriety of attempting to raise winter pears at all. Others again, one of whom we recollect particularly—Gen. M. S. Wade—have succeeded finely. This difficulty has resulted from the rapidity with which winter pears become dry or evaporate through the skin, a difficulty which does not exist nearly so much in the apple. Hence if the room in which they are kept is too dry, they soon wither, if too moist, they decay. The latter more frequently proves the ruin of winter pears. Hence, it usually happens that success does not depend upon skill in raising, but on the accident or judgment of possessing a cellar or store room of just such a degree of humidity as to avoid these two extremes. And hence attention should be directed to remedy this difficulty, by removing the causes of too much moisture in one case and dryness in the other.

This can only be done by direct experiment, using the specimens as hygrometers, and lessening or increasing the moisture of the room as may be needed.

To those persons who can not conveniently make use of Nyce's principle of a fruit-house, we recommend two apartments in or near their dwelling—one a keeping and the other a ripening room, to be fitted up for the purpose. Nyce's fruit system is not for ripening, but keeps the fruit in *statu quo*, or exactly in the same condition in which they enter the house. The floor of the keeping-room should be of brick or stone, the ripening-room floor to be of wood, if you please, covered with a carpet of some kind, and, to render it comfortable and suitable for the purpose, a fire-place to heat the apartment when necessary. The cultivator of limited means will make a portion or apartment of his cellar answer for the former, or a cupboard or set of shelves in or adjoining the common living room the latter.

It is well known that not only the quality, but the period of maturity, in late autumn or winter pears depends greatly on the treatment they receive. The White Doyenne, for instance, which assumes here in ordinary seasons the character of almost a summer fruit, may be ripened in a warm room, or kept till rather late in the fall in one at a temperature a little below freezing—in a part of an ice-house, for instance. Success in ripening pears depends, in most cases, in keeping the fruit at a low temperature till near the usual time of maturity, when a few days in a moderately warm room will perfect the process. All pears which come to maturity in the autumn and winter should not be gathered till the fruit has

attained its full growth, (about the middle of September here.) This should be done by hand some fine day when the fruit is perfectly dry, keeping each kind separate, and labeling the same with its name, the day it was gathered, and the season of its ripening. (Barrels, boxes, baskets, or bins are recommended, as the quantity of each kind may require.) The fruit being thus placed in the keeping-room, care should be taken to preserve it cool, dark, and sufficiently dry; shutters, and curtains should be provided for the windows, to close them up during the day if the weather is bright, dry, and hot; at night, when the weather will permit, the thermometer not ranging below 35 degrees, the windows may be all, or in part, left open for fresh air. They should be closed early in the morning to keep in the cool night air. If mould or mildew should be seen on the fruit, it should be removed with a dry cloth or an old silk handkerchief; if about the floor or other part of the building, strew a small quantity of air-slacked lime about the room.

As the period of ripening approaches, all the varieties should be examined; the fruit that shows signs of its soon coming to maturity should be carefully packed up with layers of cotton batting in tight boxes, and in no case should the box be opened, or the fruit unnecessarily exposed to the air. From the time fruit is gathered until it is fully ripe, it should, in our opinion, be kept in close, dry vessels. The pears thus boxed should be placed in the ripening-room at a temperature of from 55 to 75 degrees of heat.

With regard to different kinds of pears, the Easter Buerre and Buerre Rantz will ripen when exposed to great changes of temperature, even to some frost and snow; but the Vicar of Winkfield should never be exposed to such changes, and needs many days in the warmest part of the ripening-room to bring it to full maturity, and so, in a measure, do the Winter Nelis and Buffum.

Mount Vernon Pear.

IN previous volumes of THE HORTICULTURIST the Mount Vernon pear has been alluded to and described; but never until the present number correctly illustrated. Like many other of our most valuable varieties, it originated by chance, in the garden of Hon. Samuel Walker, Roxbury, Mass., growing up in the yard near his office. Its merits have been long known to our most prominent pomologists, and its value well canvassed each time of its exhibition, every discussion eliciting more and more favorable mention. The fruit is of a full size, large and globular in shape, handsomely colored with a rich cinnamon brown, slightly tinged with a reddish cheek; flesh is juicy, with a melting, spirited flavor, spicy, and very distinct from any variety now cultivated. Ripens from November to January, and has proved to be a vigorous grower and an early bearer.

Raising Slips.

PERHAPS it might have sounded more elegant and refined had I written "Propagating" instead of "Raising," at the head of this article. But I do not intend this advice for "professionals;" they know more—perhaps have *forgotten* more than I can ever hope to learn on this subject. This is intended for all who, like myself, have a quiet little home garden of their own, away off in some out-of-the-way corner of the wide, wide world, where no one "comes to buy flowers, rare flowers, to twine a wreath," but who keep the "shining jewels" for their own admiration.

Those who are able to build "propagating-houses" find but little trouble, comparatively, in raising slips of any kind, almost. But we who have none must do the best we can with the means at hand. I am often asked, "How is it you have such fine success in growing roses, etc., from little slips?" The answer is here given. Of course, if you have a "propagating-house" you may cut, break, or pull off almost any kind of a slip, and make it grow; but if you are not blessed with one, you must follow this plan: Get as many shallow, narrow boxes as you desire to fill with slips—say boxes two feet long, one foot wide, and four inches deep. Get finely-sifted sand and rich chip manure, well rotted, half and half, mix well together, and fill your box. Pull off your rose slips from *matured* branches, (new, sappy



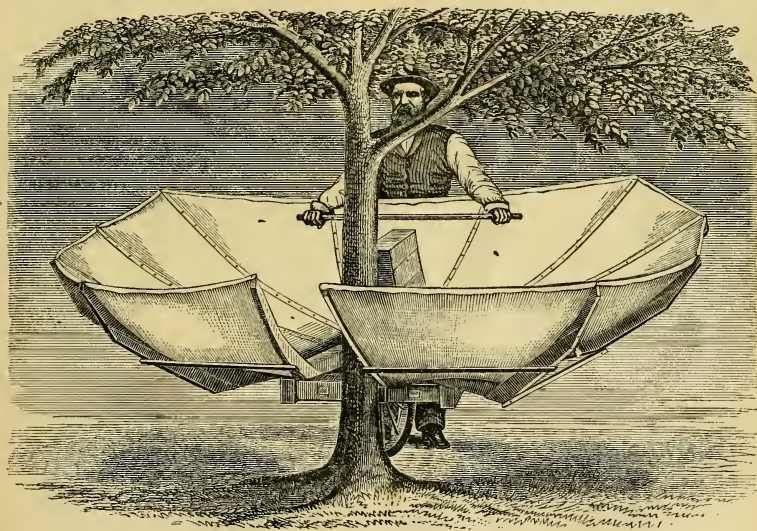
Mount Vernon Pear.

slips will not do half so well,) leaving a little *foot* of bark to the root, and make a small hole in your sand, etc., and put in your slips, say one and a half or two inches, according to the size and strength of your slip, press the dirt *firmly* about the base of the slips, setting them two or three inches apart in the box. When full, give a good watering with soap-suds, not cold. Cut off all leaves, and set your box in a warm, *shaded* place. If you have a hot-bed and sash, put them in that, and shade the glass for a week or two. Water as before as often as every other day. Don't fail to have a few small holes in the bottom of the box to pass off surplus water. At the end of a week or two remove the shade and give the young slips all the sunshine. If too hot, lift the sash a few inches to pass off the excess of heat, closing it at night. After frost comes, keep the sash closed day and night. In *very cold* weather place some old matting or carpet or boards over the glass, removing it when the sun shines warmly on bright winter days. These directions followed, you will, by the time you need your hot-bed for other things in February, have nicely rooted young plants, which you must still keep in a warm room until May, when they will be ready for potting.

When you remove them from the hot-bed, (if you should be compelled to do so,) be sure to remove them to a place no colder, as a sudden change to a colder temperature, at that time of year, would destroy many, if not all of them. You can cull and set rose slips at any time of the year.

WOODMAN.

STANFORD, KY.



Dr. Hull's Curculio-Catcher.

CATCHING the curculio is a serious business, and admits of no humbug or patent washer. The only method ever discovered for uniformly successful efforts is the jarring of the tree every morning from the beginning of the appearance of the insect down till his disappearance. This is not all; a cautious man leaves no way of escape, and a curculio-catcher is at the same time a curculio-destroyer, thus preventing future broods of the mischievous plague. Of the various instruments used for simplifying the work of jarring the trees and catching the insects, we have seen nothing to equal that now used by Dr. Hull, of

Alton, Illinois, a cut of which we present above, originally engraved for *The American Entomologist*.

The construction of the barrow, arms, braces, and the adjustment of the cloth to the frame, are all readily understood by a glance at the engraving, and no detailed description is necessary here.

The doctor adds a few words of explanation :

"It will be seen that the wheel is nearly in the centre of the machine. To cover the opening at this point, a frame is raised over it, which is also covered with canvas. The arms, or stretchers, are so curved that the motion of the machine, in moving from one tree to another, should bring every thing falling on the canvas to depressed points, one on each side of the wheel, where openings are made into funnels emptying into pockets or bags, for the reception of insects and fallen fruit. The whole machine should not exceed ten or eleven feet in breadth, by twelve or thirteen in length. These are for large orchard trees ; smaller ones could be protected with a much smaller machine. If the frame-work has been properly balanced, the machine will require but little lifting, and will be nearly propelled by its own weight.

"The curculio-catcher, or machine, is run against the tree three or four times, with sufficient force to impart a jarring motion to all its parts. The operator then backs far enough to bring the machine to the centre of the space between the rows, turns round and in like manner butts the tree in the opposite row. In this way a man may operate on three hundred trees per hour."

The editor of the *Entomologist*, who visited Alton and saw it in operation, considers it successful ; but adds :

"To run this machine successfully, three things are necessary : 1st, that the land be decently clean, and not overgrown with rank weeds ; 2d, that the orchard be sufficiently large to pay the interest on the prime cost of the machine ; 3d, that the trees have a clean trunk of some three or four feet.

"There are various modifications of the machine, and Dr. Hull has himself cheapened and simplified the one he has now in use, by doing away with the funnels and pockets for receiving the insects and fallen fruit. He now carries with the machine a bag and a broom, and, as occasion requires, sweeps the contents of the catcher into the bag, which is afterwards dipped in boiling water in order to kill the inmates. This arrangement admits of separating and setting at liberty those friends which are knocked down with the foes ; whereas by the former method the righteous bugs were ignominiously slaughtered with the unrighteous. As may also be seen from the above sketch, the frame covering the wheel is made of pine board, while the handles for propelling the machine are riveted *above* the canvas instead of being fastened *below* it, and the doctor finds that this last arrangement gives him better leverage and greater control of the machine."

Weeping Mountain Ash.

THE *Rural American* gives a few notes on the beauty of the weeping mountain ash, (*sorbus aucuparia, pendula*.) We indorse every word ; but would add that, however large or beautiful our ornamental grounds may be, we would never desire more than two specimens ; but those should be very fine, one larger than the other, and in as bold a position as possible. The smallest being a little retired toward the rear of the ground or lawn.

This is a very strong growing tree, covers a larger area than any other weeping tree in the same time. It is, however, a little wayward, and requires some training while young. Set stout uprights around it as directed for the willow, with cross pieces on top, to which tie the branches in such a manner as to be evenly distributed round the circle formed by itself. Change the position of the uprights as the growth of the tree requires. Should be grafted on the upright mountain ash. Select clean straight stems, and to have a really good specimen work at least ten feet high. This is, or should be, the most popular of all weeping trees. By its exceedingly rapid growth, and a little timely training, it will in five or six years cover a circle of fifteen to twenty feet diameter ; its outer branches sweeping the ground. When covered in the fall with beautiful orange berries in bunches, it is really an object of surpassing beauty.



A Word about The Horticulturist for 1869 and 1870.

THE past year has been an eventful one in the history of THE HORTICULTURIST.

Taking it at a time when, in the minds of many, its fortunes and prospects seemed to be declining, and when even permanent subscribers seemed to be losing all interest and affection, it required a strong hand to infuse into it a new spirit and more active energy, to bring it back to the old favorite position it occupied for so many years as *the* leading journal of American horticulture.

The present proprietor, counting fully all the exigencies of the occasion, took hold, and from the commencement of this year until its close has thrown into it life, enthusiasm, and talent, and now at the end of this the first year it is a great satisfaction to be able to state that, within so short a time, it has proved once more a success, regained its honor and redeemed its reputation.

By bold and forcible advertising, by the use of premiums of an unusually favorable character, by the unanimous, cordial notices of the press, by personal resources, THE HORTICULTURIST has steadily advanced in circulation during the entire year; its receipts have doubled, its advertising patronage the past fall exceeded that of all competitors, and, notwithstanding the increased expenses of over two thousand dollars for 1869 more than will occur for the next year, we take pleasure in stating that THE HORTICULTURIST has *yielded a good income*.

In the management of all the departments of THE HORTICULTURIST our motives have always been of the purest and most honorable character, never desiring to descend to any thing of a selfish or mercenary nature; for we aim to *serve the interests of the people*, and represent faithfully our American horticulture in all that is noble, inspiring, beautiful, or valuable.

As long as Providence may permit and sustain, we hope to retain THE HORTICULTURIST as a permanent charge, guarding its honors and fortunes, making it more and more dear and welcome to the homes and hearts of all true lovers of country life.

The future is very bright. Since September 1st subscribers have been added to our list in large numbers; at times the circulation has reached 6000 per month—the largest circulation, we believe, of any horticultural journal this year. And now, friends and subscribers, thanking you for past patronage, we launch out for 1870 with a firm hand on the rudder, and redoubled exertions, promising to make the Twenty-fifth Volume the most brilliant in its history, and the finest horticultural volume ever issued in the United States.

By reference to prospectus on another page, readers will find many attractive announcements, while it will also be seen that we have adopted the *advance system* entirely.

Hereafter no name will be entered or copies sent until the money has been first received.

A majority of our readers would prefer to have it continued as heretofore, and not lose the appearance of a single number; but we believe our new system will be most agreeable and satisfactory in the end.

Unusual facilities are offered subscribers for the formation of clubs, and it will be to their interest to take advantage of the same.

It is trusted that every one will renew and bring *one new name*, if not a club.

Subscribers and advertisers, will not you send in your liberal presents to this *Silver Wedding* of THE HORTICULTURIST for 1870, and make it one of the most successful years of its history?

Salvia Tricolor.

SPECIMENS of a new salvia were forwarded to us some time since, for comparison with other varieties. It is a new variety, deriving its name from the colors of the leaves and stems; the stems when young are of a deep pink color changing to red, while the leaves are green with yellow and white edgings. The height is about ten inches, and the plant being quite ornamental, we should judge it would prove a good acquisition to our list of garden or lawn plants.

The Western Farmer.

WE observe this journal has changed hands, being now owned and conducted by D. M. & G. E. Morrow, who have had large business and editorial experience. Madison is a thriving place, and Wisconsin a fine country. *The Western Farmer* is always a welcome visitor to our sanctum, and we trust its new proprietors will have abundant prosperity.

The Goodale Pear.

FROM specimens forwarded us by S. L. Goodale, of Saco, Me., we are able to express a very favorable opinion of the Goodale pear, one of the most promising of the new varieties.

The fruit is of medium size, when ripened, fine yellow color, with a slight tinge of crimson, flesh moderately firm, melting, with rich excellent quality. The tree is an excellent grower, and as far as tried has proved in New-England very vigorous and hardy. At the recent Pomological Convention in Philadelphia, delegates from five States (including Pennsylvania) spoke highly of its hardiness and productiveness. Mr. Goodale states that for fifteen years the tree (now nearly twenty-five years old) has not failed to bear a good crop of uniformly fair fruit, of good size and excellent quality.

It commences ripening about two weeks after the Bartlett, and continues until the Beurre d'Anjou is in its prime; but like the Sheldon and Clapp's Favorite, must be picked from the tree early and allowed to ripen in-doors.

We should judge it one of the most valuable new varieties for cultivation, especially in New-England, and would recommend it as worthy of more notice than it has hitherto received.

Southern Queen Sweet Potato.

THIS is a new variety exhibited at the fair of the American Institute, this city, by B. K. Bliss & Son.

Its recommendations are a fine large size, smooth skin, delicate white colored flesh, ripening two weeks earlier than the Nansemond, and said to produce double the quantity.

We would be pleased to try them in Delaware the next year.

Forcing Strawberries.

THE question has been asked of us several times whether it is profitable to force strawberries for early market, and to how great an extent it can be carried out.

We would reply that with the proper conveniences, such as nearness to a large city market and a first-class dealer, it is very profitable. We have seen strawberries selling in the fancy fruit stores of New-York in February, March, and April at 25c. apiece, or from \$2 down to 75c. per quart. There are people who will pay such prices freely for such novelties. Their number is not very large, and the demand can not be considered very great, while the profits to the raiser will hardly amount to over 50c. A few fortunate growers, who enjoy an intimate acquaintance with the retail fruit-dealers, are able to realize large proportionate profits for the quantity actually sold.

But as an amusement for private uses strawberry forcing is really interesting and valuable. At very little expense, scarcely more than that of an ordinary hot-bed, a strawberry bed can be made to produce a very early crop, one to two months before that from the garden, giving a real horticultural zest at the novelty, and true enjoyment at the pleasure of the taste.

An exchange (we think *Hearth and Home*) gives an account of a good and simple method for forcing them.

"On a late visit to Mrs. Barton's Montgomery Place, Barrytown, on the Hudson, we noticed a new mode of obtaining this fruit from five to six weeks earlier than they can be had out of doors.

"A bed was prepared in the usual way by trenching and manuring, and the plants set out in the spring—they were carefully kept clear of weeds, and all runners cut off. In the fall, the bed was covered four or five inches thick with leaves; in the month of February these leaves were removed, and ordinary sash frames placed over the beds, and the sashes put on—the sides of the frames being banked up with the leaves, and the sashes protected at night by suitable coverings. The warmth of the sun soon started the plants into growth and bloom, and fine ripe fruit was gathered from them in April and May. No artificial heat was applied. Of course attention must be given to airing the frames in the middle of bright sunny days, and

water should be supplied when needed, as the season advances. The plants may be set in rows twelve inches apart, and eight inches apart in the row. As the runners are not allowed to grow, they can be planted much closer than in out-door cultivation. The bed we saw was seven feet wide and seventy-five feet long, and yielded a full supply for a large family."

Disappointed Fruit-Growers.

It is natural to communicate to the press instances of large profits of fruit culture, but we do not often hear of honest reports of the other side of the question. P. S. Linderman, of South-Haven, Mich., presents a view of the other side of the subject in the *Western Rural*. He shipped 12 crates, 192 quarts, of Lawton blackberries to Chicago. Freights, truckage, commission, and crates cost \$7.55; the berries sold for \$12.64; leaving \$5.09, or 2 cts. 6½ mills per quart for picking, shipping, postage, etc., to say nothing of raising, capital invested, etc. He tried a patch of strawberries, but had plowed them up. One of his neighbors had one and one half acres; he tried them two years, and has plowed up most of them. His only object, he says, in confessing these failures is to caution those not acquainted with the berry business to "make haste slowly" in entering upon the business of raising them for market.

A New-Jersey correspondent of *The Gardener's Monthly*, who has been experimenting on "Ten Acres Enough," sent several chests of strawberries to the Philadelphia market one day last season, for which he paid three cents a quart for picking. They were sold by his commission man for four cents a quart.

'The Wilson Blackberry,

which was sold in comparatively large quantities in the Philadelphia markets during the season, is, beyond all comparison, the finest fruit of its kind we have ever seen. The berries were of enormous size, and at the same time tender and without the hard green core which is usually found in the Lawton and other cultivated varieties. In point of flavor, it is simply exquisite; while, for productiveness, it is represented as being without an equal. The only drawback to it, in the estimation of the growers of it, is, that it matures its whole crop at once, and when perfectly ripe is rather too soft to bear long transportation to market. In all other respects it is regarded as a first-class fruit, and for family purposes is destined, we think, to come into general cultivation. It commanded just twice the price of the Lawton, and a much readier sale.—*Journal of the Farm.*

Raspberries in Virginia.

THE editor of *The Farmer's Gazette*, Richmond, Va., expresses a general dissatisfaction with all red raspberries, but believes the black-caps are destined to be popular.

"The difficulty in the Northern States is to get a variety of raspberry that will stand the winter; here it is to get one that will endure the summer. This season has only increased the record of failures. Notwithstanding the fact that we have had a more than usually cool and moist spring and summer, yet we have had no success with any of the red raspberries except the Philadelphia, and only partial with that variety. All save the Philadelphia died before maturing; and while that matured a good proportion of its fruit, still it was by no means prolific. Its flavor, however, we think is decidedly better here than further North. The Clarke was not fairly tested, and we still hope it will prove useful.

"The black-caps succeed admirably, bear enormously, ripen well, and are highly flavored. It will be prudent for our growers to rely mainly upon these, at least until the Philadelphia and Clarke have been more fully tested.

"Why do not our fruit-growers give us more raspberries? There were none in market this season, and yet the black-caps are well adapted to this climate, and are prolific enough to be very profitable."

Full Planting of Fruit-Trees.

EXPERIENCED horticulturists can produce equally good results from either fall or spring planting. Knowing well, as they usually do, *when and how* to plant, and avoiding the ill effects of too long delay, it makes but little difference as to the choice of either season. But as a rule for general cultivators, not so well posted in horticultural matters, we think the fall is by far the most safe, economical, and gives most successful growth for future years. We have always contended for it, and have always practiced it, and are pleased to see that the Agricultural Press generally are more and more inclined to give the same advice to their readers.

This subject assumed a practical bearing lately at the Fruit Growers' Club, New York, being introduced by Mr. Fuller substantially as follows:

"Our farmers throughout the country are now debating the question in their own minds, or among their neighbors, whether they shall plant trees this fall or wait until spring. I think

that the question should be decided according to locality, for it is no doubt true that trees planted in the fall in certain localities will grow more rapidly the following season than if this operation was deferred until spring; but it is doubtful if such a practice would be beneficial in the extreme Northern States, where the winters are very severe. If I were to draw a line to show in what two sections of the country it would be safe to follow one system, and not the other, I should say north of the latitude of the city of New York spring planting is safest; south of this, fall planting. Of course I refer only to hardy, deciduous trees, like the apple, pear, and plum. There are soils and locations in both of those sections that will demand a variation of the general rule; but whether the trees are planted in autumn or not, I think they are greatly benefited by being dug up at that time and *heeled in*. When a root is broken off it requires time to heal over before new rootlets will issue from it. Consequently, if we take up the trees in fall and then bury the roots deeply in the soil again, this healing process will go on during winter, and new roots will issue earlier in spring than if the digging was deferred until that time. Besides, it is not always practicable or possible to obtain trees from the nurseries as early in the season as they are wanted; but if purchased in the autumn and heeled in upon our own grounds, they can be set out whenever we are ready."

The Rural New-Yorker, commenting upon the discussion, adds these views:

"Mr. Fuller's theory as to the effect of frost upon the roots, the vitality, and future growth of a fall transplanted tree, we believe to be correct, and accounts, in a measure, for the varied experience had in fall planting. But we do not condemn nor cease to recommend fall planting. In latitudes where the ground is kept warm during winter by a heavy mulch of snow, fall planting will be as successful as in southern latitudes, and here lies the secret of success: *every fall planted tree should be heavily mulched before the ground freezes*.

"Then the same results will be attained as by heeling in; and the cost of *mulching* is not any greater (if as great) than that of heeling in, and reopening, and planting in the spring.

"We recommend fall planting of deciduous trees; but we do *not* recommend it in colder latitudes without thorough mulching."

We are pleased to see our position in favor of *mulching*, both winter and summer, so well sustained by *The Rural New-Yorker*. Wherever we could find space, we have repeated it until it has almost become an axiom, that *every newly planted tree must be carefully mulched*.

In planting our trees this fall, we shall adopt several methods of treatment. Our cherry-trees will be all mulched, but *no manure* will be used. The mulch we use is fine salt hay.

With our pears and apricots, which need good attention, we shall haul out abundant quantities of rich *muck*, and apply a liberal dressing over the entire area covered by the roots, and three or four inches deep. This will be both a mulch and a manure, and in the spring will be dug in and incorporated with the soil. The fall we have uniformly found the best time for planting blackberries and raspberries, but planting is never complete without the mulch.

Picking Pears Early.

LARGE quantities of fruit are lost to the grower for market purposes because they are left on the trees too long, and become too ripe. A long jaunt to market with jolts innumerable soon destroy both the consistency of flesh and good looks in any good pear, unless it is firm and well packed.

The *Sheldon* and *Clapp's Favorite* are already two very popular varieties for market culture; but unless cultivators remember to pick them *early* from the tree, before ripening, they will find the fruit speedily decays, and can hardly stand shipment to market.

This rule is not quite so necessary with other varieties, but especially important in this case.

A Fine Catalogue.

MISSOURI claims the honor of producing from the establishment of Isidor Bush & Son, Bushberg Nurseries, one of the best illustrated fruit catalogues in the country, certainly the *best* of all issued at the West. We are pleased to see the taste exhibited in its compilation, and the painstaking desire to give really useful and practical information to the public. The space devoted to grape culture is quite large, and the illustrations of varieties best suited to Missouri soil and climate, will commend it attractively to all.

Pear Blight.

A CORRESPONDENT of *Hearth and Home*, in a report from Central New-York, as to the prevalence of pear blight there, gives a description of the "symptoms" of the malady, and the varieties that escaped:

"From April to the middle of June, the trees appeared in their average health. The usual spring pruning developed no swelling of the bark, or exuding of unctuous, acrid sap, or discoloration of the wood. The leaves opened vigorously in May, and the fruit blossoms were

abundant. But near the last of June and early in July signs of trouble appeared. Here and there, on different trees, several small branches began to turn brown; then they became black and dry, totally dead in leaf and wood. Cutting off these branches and burning them did not arrest the disease, for the tokens of it cropped out here and there all summer long, up to the middle of September. The blight did not assail the trunks and large branches, and extend from them upward and outward; but it struck first the outer buds, twigs, and branches, and descended from there toward the central parts of the trees. It affected the north side of the trees as much as the south side; in some cases it destroyed branches six feet long; in others, those only a foot or two long; it seldom killed a tree outright."

After examination for insects, and finding none, also failing in the attempt to explain the blight by the frozen-sap theory, as trees were affected under every possible condition, the question is given up.

The following varieties escaped the blight:

Tyson, Rostiezer, Beurre Giffard, Louise Bonne de Jersey, Lawrence, Dana's Hovey, Beurre d'Anjou.

"Those varieties only should be planted in any given locality which are known to be hardy, and adapted to that soil and climate. The land on which they are to be set should be strong and moderately rich, and dry enough for raising good corn crops. If surface-water stands in winter on any part of it, it should be drained. No pruning should be allowed after the month of July, and no special culture which would be likely to induce late growth of wood."

Pear Blight.

A CORRESPONDENT of *The American Agriculturist* from Amherst, Mass., thinks he has discovered a remedy for the pear blight.

"I observed, some years since, among a row of very thrifty pears, a Bartlett turning black; the leaves and the short spur limbs turning to a crisp, as if burnt with fire; the trunk soon turned black on the side which was exposed to the sun's rays. I pointed out the tree to a nurseryman of considerable experience in horticulture; after examining the tree carefully, he told me 'to cut off all the parts' which seemed affected by the blight, and give the tree a good coat of soft soap, diluted, and let it dry on the tree.

"Somewhat incredulous at so simple a remedy, I followed the prescription.

"The tree in a few months seemed to gain; the next season all the old black bark rolled up, and new, healthy bark formed, and the tree is now as vigorous and healthy as any tree that I have.

"I have since experimented with like success. All I have to say to veteran pear culturists is, to try it."

Protecting Orchards against Mice.

A CORRESPONDENT of the Department of Agriculture, writing from Buffalo, New-York, says:

"It is well known that young orchards throughout the Northern States are partly and sometimes wholly destroyed by mice, especially when the snow lies deep for any length of time. Many remedies have been applied, but few, if any, prove an effectual preventive. I propose to take a strip of tarred paper, such as is used for roofing purposes, say eighteen or twenty inches long, and of sufficient width to wrap around the tree twice, taking care to remove the earth a little, so as to get the paper well down. Tie the paper in two places with a string, return the earth up to the paper, and you may then feel sure that the tree is safe from harm. The paper should be taken off in the spring, and laid away for future use. The paper will last several years, as time and weather appear to affect it but little, and the expense is small in comparison to the advantages to be gained."

The above idea of the tarred paper is an excellent one, for we have heard many successful fruit-growers tell their experience with it, which was uniformly very favorable.

Ignorance in Planting Trees.

THE *Aberdeen (Miss.) Examiner*, in its notes on fruit culture in Mississippi, speaks as follows of the death of trees by starvation or wrong planting:

"In planting trees, the custom has been almost universal—and sanctioned, too, by the highest authority—to, first, dig deep holes down into the stiff clay or barren sand subsoil, as the case may be, and then fill in with soil that has been highly manured—sometimes with manure alone, and covered with soil—and then plant the tree in this highly enriched and thoroughly prepared soil, while the surrounding soil beyond the limits of these holes is left unmanured and uncultivated. Now, what is the consequence? If the subsoil be a stiff clay, the hole becomes a receptacle for water, which stands and stagnates at the bottom. The roots, at first, stimulated and nurtured by the rich soil, put forth fibres rapidly, and the tree starts into a sudden and rapid growth. But, as the roots descend, they soon come in contact with the stagnant water, which operates as a deadly poison to the roots. This poison is communicated

to the tree, which soon sickens and dies. Nothing can be more certain than this result. A subsoil of poor barren sand is equally fatal, though from a different cause. So long as the roots can revel in the rich and highly prepared soil, the growth of the tree will be vigorous and healthy. But the roots are constantly extending in every direction after food. In their progress, they soon pass through the manured soil, and strike the poor and unfertilized sand, and here they stop; they can not penetrate a soil that is destitute of the elements necessary to their sustenance—they can not travel without food. Food is what they are in search of; but reach which way they will in this barren soil, they find none. The tree, after having been highly fed and stimulated to an excessive growth, suddenly finds itself reduced to a state of starvation. Its growth suddenly stops, the leaves turn yellow, the tree drags out a sickly existence for a few years, and then dies from starvation."

A Gardener's Advertisement.

THE following advertisement appeared in an English journal recently by a gardener desiring a situation :

A GARDENER, of his employment bereft,
When death a dear lady removed,
Experienced great loss when so painfully left,
For he had for nine years been approved;
Now seeks a new service, and where there is wanted
Skill, diligence, merit's best face,
Assured when he finds himself fairly transplanted,
He's the right gardener in the right place.

Tropæolums for Winter Decoration.

TROPÆOLUMS are excellent for winter decoration. We employ the Lobbianum varieties. Triomphe de Gand, Brilliant, and Elegans we like best. We grow them in two ways—as climbers and as pot-plants; in the first case, we take off cuttings in spring, or early in summer, pot as required, and shift into nine-inch pots in August, or at the beginning of September. The shoots are trained to wires fixed about nine inches from the glass; but they will succeed equally well on trellises in a light situation. Triomphe de Gand is best for this purpose. The soil used is a mixture of turfy light loam, old mortar rubbish, or broken pots, leaf-mould or old cow-dung, in equal parts. Good drainage is necessary. Pot-plants we raise from cuttings inserted at the end of July, or early in August, in a gentle heat, placing one cutting in a three-inch pot. When the cuttings are rooted, we pinch out their points three joints from the soil. When they begin to grow again, we harden them off, remove them to a cool, airy house, shift into four and a half inch pots, and to each place a neat stake painted green, and not more than eighteen inches high. Tie the shoots to the stake, and pinch off all flower-buds as they appear, stopping when the shoot has grown six inches. When it again pushes, select a leader, tie it to the stake, and pinch out the points of the side shoots when they have grown so as to have three or four joints, and stop the leader when it has grown six inches. Shift into a six-inch pot, and stop again at the third joint. The leader will now be at the top of the stake. The plants will now begin to flower; keep them compact by stopping at the fourth leaf. They will continue to grow and bloom most of the winter, in a temperature of 45° to 50°. If larger plants are wanted, seven, eight, or even nine-inch pots may be used. Give no more water than enough to keep them fresh. When the soil becomes dry, give a good supply. The tuberous-rooted tropæolums, as tricolorum, Jarratti, etc., are also good. They are very handsome if trained to a wire trellis, or to the top of a young spruce or larch, two or three feet high; and the twigs of the spruce or larch covered with the wire-like shoots of the tropæolums, the pretty bright green leaves, and rich orange, yellow, and brown flowers, have a fine effect on the centre of a dinner-table. The larch tops make excellent supports for this class of plants, much better than wire trellises. The tops should have parted with the bark, or it should be removed, the shoots thinned out, and the twigs equally disposed, widest at bottom, and gradually tapering upward like a cone. Except for dinner-table decorations and particular purposes, so much care need not be taken.—*Cottage Gardener.*

Pruning.

My observation leads me to think that pruning, as generally done, does more harm than good. Everywhere I go I see trees ruined by pruning. In some cases large limbs are slashed out with an ax. If sawn, it is done in such a slovenly manner as to leave a wound that will not heal over in years, and most likely make the tree rotten-hearted. I have seen men go into the orchard and slash out two thirds of the top of a large tree, without any definite idea of what they were doing—only a very crude idea that it ought to be pruned.

A man in a neighboring town gave a man fourteen dollars to prune his orchard. He had better have given twice that sum to have staid out. Great limbs cut off with stumps extending from three to six inches from the body—never to heal over. A coarse, rasping saw to tear the bark, with the limb allowed to fall and strip down the tree. The stump exposed with no

protection from heat, cold, or rain. The balance of the tree interfered with so seriously that it soon becomes a prey to disease and insects, and some fine spring is found dead. Yet the owner congratulates himself that it was no fault of his, as he gave it the best of care, even to pruning.

When will people learn that limbs should be taken from the tree with a smooth, clean cut, and so near to the parent stem that the sap wood will speedily cover over the wound? Every considerable wound should be covered with wax, varnish, or paint, to keep out water and protect it while healing.

People who know nothing about pruning had better do little of it, except to keep the suckers clear around the root of the tree. Many a tree has been ruined in the North-west by injudiciously pruning out the top, and letting in the sun. The branches in this climate should be thick enough to protect one another and the body of the tree. Yet in this climate we have orchards that have been treated from time to time in this suicidal way, that have some trees that have lived through, and are now ten or twelve inches in diameter. But nine out of ten of the trees are dead. The remainder will follow, one by one, as their constitutional vigor is seriously impaired—*L. L. Fairchild, in Country Gentleman.*

Clipping Off the Leaves of Strawberry Plants.

A CORRESPONDENT of the *London Gardener's Chronicle* relates a curious story concerning the cutting off the leaves of strawberry plants, to induce fruitfulness and luxuriance:

"I was looking out of my window, which commands a view of numerous small gardens above the town of Boulogne, some three or four weeks ago, when the weather was hot and dry, when I perceived a man some distance off vigorously mowing something with a scythe. I mentioned the circumstance to my landlord, who also has a garden, and asked him what his neighbor was about. 'O monsieur! he is cutting down his strawberry plants.' Remembering my friend, the late Dr. Lindley's, stern denunciation of such an ignorant practice, in which he had, I believe, the support of the leading gardeners, I remarked to my informant, 'That it was quite contrary to nature, that the plant was being deprived of its breeding and feeding apparatus,' etc. 'But, monsieur,' replied my landlord, 'my neighbor is celebrated for the quantity and goodness of his strawberries.' This was rather a hard thrust, and I had some vague sort of recollection of having severely scolded a rough sort of gardener I once had for having done the same, and being myself punished for it by an unusual supply of good fruit. My landlord said he should treat his the same way; but I begged him to leave some; so he has cut some of his down, and merely removed the runners from others, and now awaits the result. Those that had been mown since the rain we have had are now looking fresh and green and have put out runners. I should say that until the plants began to push, they were covered with the leaves that had been cut off. One of the leading horticulturists here has been condemning the plan, and I open the question whether a partial trimming, leaving the crown of the plant intact, may not be beneficial."

NOTE.—Several circumstances have come to our attention proving that the practice of cutting off the ripe leaves from strawberry plants after fruiting is a decided benefit, as much so as the pruning off of old canes of blackberries after they have done bearing. We have not yet met with an instance where it was an injury, while the produce of fruit seemed to be increased beyond all other methods of stimulation.

An inquirer asks a question of this nature of the editors of the *Small Fruit Recorder*, who reply:

"We have found it very beneficial to cut off the entire top of the strawberry plant after it is through bearing. If it is done, the plant commences a new growth immediately after, and by fall becomes a rank luxuriant hill. It will be found that many sorts are as much weakened and exhausted by leaving on the old dead leaves, fruit stocks, etc., as by the fruit crop. Cut the top off by all means, and scatter a liberal supply of manure among them, and work the ground well."

Value of Varieties of Tomatoes in the West.

THE Alton (Ill.) Horticultural Society made the following report on Tomatoes at their meeting, September 2d:

In selecting a variety of tomatoes for market purposes we require, earliness, good size and color, productiveness, and firmness of flesh and skin sufficient to endure transportation without injury. Of the varieties cultivated in this vicinity—

The Tilden is the best for shipping purposes; early, good size and color, handsome and productive; its only fault is lack of quality and proneness to rot.

Large Smooth Red. Five to ten days later than Tilden, handsome, good quality, and productive; one of the best.

Extra Early Red. Very early, medium size, and productive for a short time, but will not stand dry weather.

Lester's Perfected. Large, quality best, enormously productive, but too late, and does not stand transportation.

Maupay. Large, productive, good quality, worthy of further trial.

Keyes's Early, Alger, Orangefield, Eureka, and Cedar Hill, all nearly worthless for market. Of the newer varieties, Brimson, Bluster, and General Grant are productive, and of good quality, but deficient in size and too soft.

New York Market. Large size, firm, of good quality, and we think will prove valuable.

Notes and Queries.

EDITOR HORTICULTURIST:

ST. JOSEPH, MICH., October 23, 1869.

DEAR SIR: Will you please inform a new beginner in fruit-growing, for guidance in giving heads to new trees:

(1.) Whether the bodies of trees increase in height from the roots; that is, supposing a limb on a two-year old peach-tree is two feet from the ground, will that limb be carried up any higher by the growth of the tree?

(2.) Will tar put around the bodies of peach-trees, to keep the ants from destroying the crop, injure the tree?

I have just bought an old neglected orchard swarming with ants. They destroyed about half of the past crop. I checked them by putting tar around the trees. Is the practice injurious?

(3.) Will muck fresh from the swamp, put on the ground this winter, and spread in the spring on sandy loam, injure or benefit strawberry plants then to be planted?

Yours truly,

A SUBSCRIBER.

REPLY. (1.) The branches of the tree are not carried up with its growth; but remain at same height from the ground, increasing in size yearly by the layers of new growth.

2d. Coal-tar is a positive injury to trees; perhaps not seen at once, but in most instances results in death. Any thing that forms a paste applied to the bark of trees interferes with the pores of the bark, and produces disease. *Potash-wash* is best to clean all trees with.

3d. The muck will be a decided benefit. Either compost three months in barn-yard, or in piles seasoned with lime, or spread over the ground this winter at rate of one hundred loads or more per acre. In the spring plow in, and fallow with applications of muck every other year.

Commendation of The Horticulturist.

HENRY T. WILLIAMS:

STANFORD, LINCOLN Co., KY., October 13, 1869.

DEAR SIR: I am in receipt of your October number of HORTICULTURIST, and now write this to say a word of cheer to you. So admirable, so timely, practical, *fruity*, and delicious are its pages, that one really enjoys them as much as the fruits and flowers of which it is a monthly compendium. I have read *all* our American and some European magazines of its class, but I declare that THE HORTICULTURIST is *best of all*.

Very kindly yours,

HENRY T. HARRIS.

Napoleon Third Strawberry.

ST. JOSEPH, MICH., November 8, 1869.

IN reading your comments on the different varieties of strawberries, in the August number, page 230, of your excellent journal, I was disappointed in the matter of soils. Can you tell me whether the Napoleon III. would be likely to do well on a rich *sandy* loam? I have just bought a small place for raising peaches, and while waiting for my trees to come into bearing, must depend on the strawberry, and want success. I conclude that the Jucunda and Triomphe de Gand will fail on my soil; so, wanting a large prolific berry, I must look for others. Can you advise me?

Yours truly,

A SUBSCRIBER.

ANSWER.—We do not advise the cultivation of the Napoleon III. yet as a field crop, but to wait another season, and see how well it proves. As far as we observed it last spring in half a dozen localities, it was excellent; but a severe drought since then has materially injured the health of all strawberry plants, and we are curious to see the results. We could not advise at present any other variety for you than the Wilson.

Propagating Trees.

I WANT to learn to propagate trees and plants for a nursery, in the far West next spring. Will you tell me how to preserve mountain ash seed till next spring, and how to plant.

S. S. DEXTER.

REPLY.—Gather the fruit and put in a box, keep it well moistened until the seeds can be easily separated. Clean off the pulp, and sow in a place well protected, to remain during the winter.

Arboricultural Notices.

Lofty Trees.

WITHIN a day's journey of the metropolis of Victoria there grow the loftiest trees of Australia, and perhaps of the world. In the back gulleys of Dandenong, on the Black Spur, and near the sources of the La Trobe river, as well as in some of the remote valleys of the Upper Yarra, a kind of eucalyptus, botanically known as *E. amygdalena*, (almond-leaved gum-tree,) attains such a marvelous height as to rival, at least in this respect, the Wellingtonia pines of California. The stems rise as straight as masts, but with a height far exceeding the masts of any naval structure. The height of the loftiest ranges from four hundred to five hundred feet. A fallen tree on the Black Spur measured four hundred and eighty to five hundred feet in length. Another in Dandenong showed a height of two hundred and ninety-five feet to the first branch; the height then exceeded seventy-five feet further to the broken top-branch, which here measured three feet across. A still larger tree, at Berwick, measured eighty-one feet in circumference, at a distance of four feet from the ground. The stems, with the exception of the base, are beautifully smooth and of an ashy color. The wood is excellent for shingles, and splits with facility. Like many of other *Eucalypti*, this huge species grows with celerity, far more so than the California Wellingtonia, and the minute seeds germinate with the utmost facility. *Eucalyptus amygdalena* is restricted to Victoria, New South Wales, and Tasmania.—*The Builder*.

A Scotch Tree Nursery.

EDGAR SANDERS, of *The Prairie Farmer*, writes an interesting letter from Scotland about the nurseries of Peter Lawson & Son, located near Edinburgh, and comprising about 300 acres.

They aim to sow two tons of larch fir-seed each year, bringing something like 20,000,000 plants, selling the most of this vast stock as yearlings, barely leaving enough for their two-year-old trade. No old over-grown stock here.

There are whole fields of the nut tribe; 1,500,000 of the sweet chesnut, one year, alone. By actual count, no less a number than 200,000 of cedar of Lebanon, and four or five hundred thousand evergreen oak.

Other favorites, such as Scotch fir, Austrian pine, *Pinus Nordmaniana*, the cembra or Swiss pine. The Corsican, (a very great favorite with planters,) and although with many yet a scarce article, is here represented by many millions. This pine is valuable, as being less subject to be attacked by game. The young seedling beds of these trees are a sight to see, such vast extent, yet so true and even, like a lawn of verdure. It reminded us much of Mr. Douglas's lot at Waukegan, with this difference, that in Scotland no covering is needed to keep off the rays of the sun, and the perfect condition in which every thing here is done, and the care to make the most of every foot of land, give the whole a more perfect appearance.

The Norway spruce is another of the grand favorites; of course this may be inferred from the fact that there is a million transplanted here each year, besides the business in yearlings.

Lawson's are also noted for fancy stock of all kinds, by which we mean things of first-class merit, growing even of new things very large quantities. *Cypressus Lawsoniana* is a great favorite, but varies greatly from seed. They have a fine variegated kind of this cypress that is thought much of.

All over the British Islands variegated trees and plants are much sought after, and often give very effective aid to beautifying their gardens; and the equable climate there, giving so large a scope for variety, particularly in evergreens, renders their garden embellishments very charming. Then, too, the variegation seems to be brought out to a more brilliant tone than with us, likely from the intensity of our summer suns being unfavorable; with leaves weakened in their power by variegation. Be this as it may, many trees and shrubs there with variegated foliage, at a little distance, look almost like huge bushes of flowers. A variety of our common native tree, the ash-leaved maple, is there grown to a great extent for decorative purposes, and certainly one of the loveliest objects we ever saw. It is called *variegata alba*. It is usually grafted on the common ash-leaf, and is met with in every place of importance. We learned of Parsons & Co., at Flushing, that it will not stand with us, strange enough!

We saw a variety of evergreen oak also finely marked, and the only one in existence as yet, having originated among a large quantity of seedlings. The workmen are always on the alert for any new form among the seedlings, as if they find any thing of merit, a reward awaits them on the Saturday night.

Extensive Nursery.

THE nursery of W. H. Mann & Co., near Chicago, consists of five hundred acres, closely planted with Osage Orange hedge plants and apple-trees; containing no less than two million apple-trees and fifty million Osage plants.

Floricultural Notes.

House Plants in Winter.

THE *Buffalo Express* gives some very useful directions appropriate to this season:

"The great obstacle to the health and beauty of house plants kept in living-rooms in winter is the dryness and heat of the atmosphere of such rooms. This is a difficult matter to provide for. Many who love to beautify their dwellings with these cheerful pots can not afford the expense of Wardian cases and other elaborate devices for providing a separate atmosphere for their plants. A good substitute is made by setting the pots into a broad, shallow box, and filling the space between the pots with moss. Then lay over all a smooth coat of moss, covering every thing but the earth immediately around the plants in the pots. The moss should then be kept moderately damp. This arrangement not only adds much to the appearance of the plants—giving the effect of their growing directly from the bed of bright green moss—but the continual evaporation from the moss will impart a considerable degree of humidity to the air immediately surrounding the plants. If the box is lined with zinc, it adds very much to its durability. In addition to any such arrangement the leaves of the plants should be frequently washed or syringed.

"To protect plants from freezing nights, nothing is more simple and effectual than newspapers. A single thickness of newspaper folded around a tender plant is sufficient protection against a moderate degree of frost. The most convenient form for the paper is that of a conical cap. It is quickly slipped on at night and off in the morning."

Climbing Plants for the Window.

THE *Massachusetts Ploughman* in an article on "House Plants," says: "Ivy may be trained about your picture-frames, to creep over the mantel and windows, or to form a border of the paper around the room, close to the ceiling. The most brilliant flowers do not give so pretty an effect to a room as a thrifty climbing ivy. Money, Wandering Jew, myrtle, etc., grow well when hung in the window, and the effect of the gracefully drooping sprigs is extremely pleasing both outside the house and in it.

"Turnips and carrots scooped out, filled with earth, planted with canary-seed or chicken-weed, and suspended by strings in the window, are very pretty. The leaves sprout from the root underneath, and the plants spring from the seed, simultaneously. Besides the pretty effect, your birds, if you keep them, can have a feast through the winter upon vegetation.

"A common pine cone planted in its several crevices with canary-seed, and placed half-way in water in a hyacinth water glass, is another original and very effective flower vase. For hanging vases, you can make yourself highly ornamental ones. Bread-baskets, sea-shells, with three holes drilled for a cord, are very pretty; a common wooden chop-basin, covered with little knotted branches, gnarled joints, dried fungi, the whole highly varnished, is as picturesque and ornamental a vase as can be desired."

Pretty Ornaments for the Household.

Hearth and Home has a notice of a very simple and pretty household curiosity:

"A very pretty mantel ornament may be obtained by suspending an acorn, by a piece of thread tied around it, within half an inch of the surface of some water contained in a vase, tumbler, or saucer, and allowing it to remain undisturbed for several weeks. It will soon burst open, and small roots will seek the water; a straight and tapering stem, with beautiful glossy green leaves will shoot upward, and present a very pleasing appearance.

"Chestnut-trees may be grown in this manner, but their leaves are not as beautiful as those of the oak. The water should be changed once a month, taking care to supply water of the same warmth; bits of charcoal added to it will prevent the water from souring. If the little leaves turn yellow, add one drop of ammonia into the vessel, and it will renew its luxuriance."

The *Germantown Telegraph* also commends to notice several other beautiful "botanical studies."

"How many of our fair readers have the beautiful vine of the sweet potato running over their mantel-shelf? This pretty sight can be enjoyed by placing a sweet potato in a tumbler or other glass vessel, filled with water, passing a pin through the tuber so as to keep the lower end from one to two inches from the bottom of the vessel. Keep on the mantel-shelf, in a warm room, and every day give it sun for an hour or two, and in a few days rootlings will begin to appear, aiming for the bottom of the vessel, and in two or three weeks the eye will begin to shoot and rapidly grow, and upon suspended twine or any little trellis-work prepared for it. The *dioscorea batatas* is the prettiest for this purpose, when it can be obtained.

"The morning glory can be propagated in parlor windows, where there is some sun, to perfection during winter; it flowers with its natural colors, and the delicate little vine can be made to run over the window. A hanging vase is the prettiest for this.

"There are many of the mosses which can be very successfully grown in the house through the winter, and with the foregoing afford an interesting and refined enjoyment for the feminines of a family, and a real pleasure to all who have a taste for the beautiful to witness. We trust to see a greater inclination on the part of the ladies to introduce into their houses this most agreeable addition to their domestic pleasure."

Potting Lilioms.

"EXPERIENCE has taught me to newly pot them, if they require it, as soon as the stem is dead; then keep them dry through the winter; they will begin to make roots before spring. To take away all the small bulbs and to shift the larger ones without disturbing them is still better; to thin out the bulbs, letting those left remain in the pots without disturbance for three seasons at least, and giving nutriment in the water when growing, is the best plan of all. This practice will be found to answer in respect to all lilies."—*Gardener's Chronicle*.

Lilies.

"THE flowers of this family are all beautiful, and their culture very easy. We believe a greater proportion of this magnificent genus are destroyed by too much care and nursing than by neglect.

"The white, (candidum,) so pure, lovely, and sweet, is the favorite of all. Longiflorum is also white, but of dwarfer stature, the blossoms larger, and longer in the tubes. Chalcedonicum, a brilliant scarlet, and Martagon (or Turk's cap) should be in every collection of lilies.

"The Japan lilies are magnificent. Lancifolium, album, rubrum, and roseum, not forgetting *L. auratum*, are the finest of the family, of exquisite beauty and fragrance. These are the best for pot culture; but their culture is so easy, and they are so hardy, as to make them desirable for the flower border. A slight covering is necessary during winter.

"*Lilium giganteum* is a singular plant, so stout and vigorous as seemingly to deny any alliance with its dwarfer co-species. Its bulb is very large and green. Its foliage consists of a cluster of large, heart-shaped leaves, each leaf almost a foot broad and two feet long, bearing fifteen or twenty pure white blossoms, of great fragrance. This is a native of the Himalaya mountains, in Asia.

"Our own native lilies are very showy and worthy of cultivation amongst ourselves. Strange to say, they are more esteemed and admired in Europe than in the land of their nativity. *Catesbæi*, a native of North-Carolina, is a conspicuous, red flowering species, with yellow markings at the base of the flowers, variegated with dark spots of black. *Philadelphicum* is one of the most charming of our mid-summer flowers, elegant and showy, of a deep orange color, spotted at the base.

"The wild yellow lily (*Canadense*) is a flower of much beauty, growing from two to five feet high, bearing from seven to twenty pendulous, bright yellow flowers, with purple inside, making it a very striking object.

"The American Turk's cap lily (*superbum*) is one of the most superb and beautiful of our native species. Few cultivated sorts are more ornamental than this inhabitant of our prairies. It has from three to twelve flowers, of a bright orange color with purple spots.

"These love a rich, moist soil, are highly ornamental, perfectly hardy, and so beautiful that they deserve a place in the smallest flower-garden. Here, then, are four fine species which can easily be obtained without money and without price; and if they are thought worthy of a place on the rich parterres of the European noblesse, they are surely deserving of cultivation by all who love flowers in the land which they beautify and adorn in all their aboriginal splendor and magnificence."—*Essay by J. W. Robson, Galena, Ill., before Jo Daviess Horticultural Society, Illinois*.

Winter Evergreens.

"A LADY who has tried the experiment says a beautiful and easily attained show of evergreens may be had by a very simple plan, which has been found to work remarkably well on a small scale. If geranium branches, taken from luxuriant and healthy trees just before winter sets in, be cut as for slips and immersed in soap-water, they will, after drooping a few days, shed their leaves and put forth new ones, and continue in the finest vigor all the winter. By placing a number of bottles thus filled in a flower-basket, with moss to conceal the bottles, a show of evergreens is easily secured for winter. All the different varieties of the plant being used, the various shapes and colors of the leaves blend into a beautiful effect. They require no fresh water."

Prunella Grandiflora.

THIS lovely gem, now to be seen in flower in the newly formed herbaceous border in the Royal Horticultural Society's gardens at Chiswick, is one of the many charming subjects to be found in the great but now almost neglected family of herbaceous plants that can not be too highly praised, or too much recommended for general cultivation. It was introduced into this coun-

try from Pennsylvania about the year 1801; but as it is now so seldom seen, I fear it is all but lost. It grows freely to the height of three inches, is perfectly hardy, and throws up an abundance of densely spiked heads (about one foot in height) of deep bluish-purple flowers, and continues in bloom about six weeks.

The heads of the flowers are about four times the size of those produced by *P. vulgaris*, and when seen in a mass—though it be but a small one—they are beautiful and attractive in the extreme. The plant is admirably adapted for front rows, or for massing in mixed borders, and I doubt not it would prove an invaluable acquisition for the flower-garden in general.—*Gardener's Chronicle*.

Zinc Edges for Flower Beds on Grass.

NEARLY all our lady readers who have cut their flower-beds out of the lawn often experience much trouble from the encroachments of the grass, which hangs over and makes it impossible to keep the bed neat and clean.

A very simple and economical method has been successfully used by an English gardener, who describes it as follows:

"Edge round your flower-beds with a perfectly even, upright cut in the grass, two inches deep; let into this cut a strip of stout zinc the same depth, bending and fitting it exactly to the shape of the bed, on a level with the surrounding grass. To keep the zinc firmly in its place, drive down some small, square, red deal pegs about a foot apart, driving them low enough for the tops to be covered by the soil of the bed. With a little brown paint brush the edge of the zinc, which should be allowed to stand one inch above the soil. The mowing-machine will cut over this edge, and the stray blades of grass that escape can be very easily clipped off; so that even a lady gardener with a pair of scissors may keep the edges of her beautiful scroll-work parterres in perfect order."

Marshal Niel Rose.

THIS beautiful rose, of which we have been distributing many plants during this and the preceding months, is a little tender, and will need protection during the winter months in latitudes north of forty-one degrees. Sufficient protection will be found in tying up the stems with a good supply of straw, or bending down and covering both branches and root with straw or turf. We have found even the most hardy roses thrive much better for careful protection, and would advise it as a rule, wherever any one has the time and facilities at hand.

Hints for December.

Orchard and Nursery.

THE first requisite in the culture and object of the cultivator of fruit-trees in the orchard should be, to secure a healthy vital action; without this, the success is but indifferent at best. The error often incurred by fruit-tree cultivators is, excessive stimulation, planting on too rich soil, which is a less frequent failing in the East than at the West, on prairie and virgin soils. We often seek and plant in too warm locations; in valleys or on level ground, instead of on high, rolling, or hilly, airy ground, which is easily drained, and of primal instead of drift formation.

Great stimulation by heavy fertilizing with forcing manures, or naturally deep and excessively rich ground, too warm location, etc., each induce to too prolonged and excessive growth, inconsistent with mature and well-developed, ripe wood, capable of withstanding the changes of our variable climate; the result is ruptured vessels, vitiated sap, unhealthy trees, inviting the attacks of all the insects and cryptogamous enemies. All these induce diseased circulation, which constitutes the life of the tree, causing blight, etc., ending in death. The moth, mother of the borer, seeks rather the tree lacking in healthy vital energy whereon to deposit her eggs, and the borer seems to flourish and be more at home here than in that more slow-growing, close-grained, healthy tree.

Pruning of fruit-trees is an art of which we have yet much to learn. That any one system is the best for all localities, soils, climates, and can be indiscriminately applied alike, under every circumstance, is mere folly to suppose; but it is not the province of these "hints" to expatiate on any theory or practice, but rather to briefly hint on probable or improbable theories and practices needing attention, leaving the fuller discussion to the more appropriate pages of this journal.

The busy practical work portion of orchard culture for the year has been performed, if fall duties have not been neglected; and there now remains, to enjoy the fruit of our labors with but little to busy the hands; yet there are always some things that the thoughtful will see that need attention, either with reference to the present or the future, let the season be what it may—the largest portion of our work is with reference to the future.

A mild spell of weather will suggest plowing, underdraining, and preparation for planting in spring. The nurseryman closes up his year's business and accounts, and arranges his plans, and prepares for spring business, taking time by the forelock.

During a mild spell, when the wood is not frozen, scions may be cut and laid in store for spring use. Many methods are recommended for preserving them. The principle aimed at in all is to keep them fresh without in any way injuring their vitality; packed in damp moss, sandy loam, or earth, and placed in a cellar where they will neither dry out, mould, or damp, they may be successfully preserved.

In cutting scions, great care and judgment should be exercised to select only from healthy, vigorous trees, and well-ripened wood, with full, well-developed buds, of the last season's growth, and of the desired variety. Tie up and carefully label each sort, and as a safeguard, should the label get lost, cut a number in one or more of the scions of each sort, and preserve memorandum of the same. No scions should be preserved for setting that you have not proved yourself, or that have a reputation such as no loss will occur therefrom. The preserving and setting of scions of a questionable value is time and labor lost.

The trees of the orchard and nursery need frequent attention to see that mice or rabbits do not injure them, as they are very fond of gnawing the bark, where they can have free access to the trunks of the trees. If there is any dry grass or rubbish near by or around the trunks of the trees, mice will revel in the shelter thus formed; all such should be firmly trod down or removed, and the snow be firmly trod around the trees for a foot or two away. A more effectual way is to have tree protectors of drain-tile, tin, or iron, which may be set and closed around the trunks of young trees resting on the ground and extending twelve to eighteen inches high. Rabbits should be trapped. Give the boys a small premium and supply them with traps, and without doubt their numbers will grow beautifully less; if not, there will be a good supply of rabbit meat that your poor neighbor will thank you for, especially if therewith you present them with some vegetables or fruit, of which they are destitute, and you would be none the poorer for donating; the Christmas and New Year's holidays will be an appropriate season for these kind acts. A little sympathy thus expressed often has surprising effects, especially if delicately extended.

As the manure accumulates from the stables, etc., it may be applied to trees, and compost carted to places where it is to be used in spring planting. Manure spread an inch or two deep about trees as far as the roots extend, during fall or winter, has many advantages; the mulch has the good effect to prevent injury from sudden alterations of temperature, while the soluble parts are washed and diffused through the soil ready to be appropriated by the roots, without any injury resulting from contact of the manure with the roots.

Fruit-Garden.

A FULL supply of good fruit is one of the greatest blessings which the soil affords us, and one which tends as largely as any one thing to induce contentment among a large class of rural and farm life. Its free use is one of the greatest promoters of health, saving in physicians' bills, etc., thereby proving it our most economical production, after the absolute necessities of life.

But the more we cultivate and concentrate, the more we are made aware of the difficulties we have to encounter in overcoming unhealthy growth, combating injuries, etc. While the same quantity may be grown, scattered over an extended territory, without our being made sensibly aware of the numbers of insects injurious; yet when we concentrate in our gardens we, after a short space, find their numbers are countless, the concentration being favorable to multiplication, and that disease becomes much more conspicuous, if not in reality more general; so true is this observation, that it has become a recognized fact and promulgated from high authority, that "superiority in adaptability of soil and climate will probably not be maintained after a few years' experience on new soils. Just in proportion as we increase improved fruits, just in that proportion will fruit insects and fruit and fruit-tree diseases increase."

The active duties in the fruit garden during December are few, if previous suggestions have been carefully carried out. Currants, gooseberries, and grape-vines may still be pruned during mild winter; and unless previously done, vines, etc., needing protection should be laid down and a little soil thrown over them, or even a few evergreen boughs will furnish ample protection. Strawberries may have applied a protection of course manure, straw, or other covering that will protect the ground, rather than the plants. One or two inches over the crowns of the plants is as much as should ever be applied to the plants.

See that the dwarf trees are well mulched and properly protected. Now is the time, at

the close of the year, to review the results of the past season and plan for future improvements; we can do this while we can not do any thing further toward its accomplishment. We can also provide materials, and fit for trellises, etc., if new ones are to be made, or repairs of those already up are needed.

Lawn and Flower-Garden.

BEAUTY and attractability should be the distinguishing features in every homestead; this should be the aim and spirit, into which may be woven the woof of judicious conveniences and comfort. Be sure economy is no less a duty; but we are slow to admit that economy consists in ignoring beauty, attractiveness, comforts, and convenience.

The world in general are more wise (?) in their practices, for it is by dispensing with these more refined qualities that economy begins with them. Instead of *practicing* true economy, the term as too often used amounts to a mere catch-word without meaning, except as a selfish denial of a thing which to themselves, they would induce others to believe, is unattractive, expending a greater amount on a thing more congenial to their taste, as a substitute, regardless of other more refined tastes.

All tastes are not alike: the mind that is contented with that which barely feeds the body sympathizes little or not at all with that which craves soul-food, and is a short-sighted economy.

We are endowed by an all-wise Creator with minds differing in capacity, capable of being improved and fed, or starved and dwarfed, at our own election. If we choose to invest in perishing worldly treasures, which last but for a season, instead of those everlasting treasures which are ours forever, the loss is our own, not another's. Yet how many are there who professing to believe in divine things neglect to provide for those higher cravings of the mind, in temporal affairs are hurrying on to accumulate more lowly earthly treasures which perish with the using!

But, moralizing aside, we have to deal with stern realities and every-day duties in growing flowers, ornamental and useful things, generally on our bit of ground allotted to us as our portion; and it is our study to so improve it as to derive at the same time the greatest possible amount of enjoyment and profit, while the eye is pleased with beauty, the mind is gratified, and the body supplied with needed nourishment.

Pruning and thinning are always in order, wherever needed. If you wish to encourage growth in any particular direction or form, prune in winter with an eye to the desired improvement in view. If branches interfere with each other, or are part or wholly dead or decaying, or the form and symmetry of the young tree is offensive, prune in winter, ever bearing in mind that every branch cut away needlessly is a blow struck at the vitality of the tree, whether done in winter or summer.

In planning and planting new grounds, we are apt to plant with reference to immediate effect, and in so doing plant thick, so that when trees, shrubs, etc., are grown, they seriously interfere with each other; and often we are loth to thin out, not being able to decide what shall be taken or what left; this is a weakness that should be put aside, and thinning done to correspond with more mature growth.

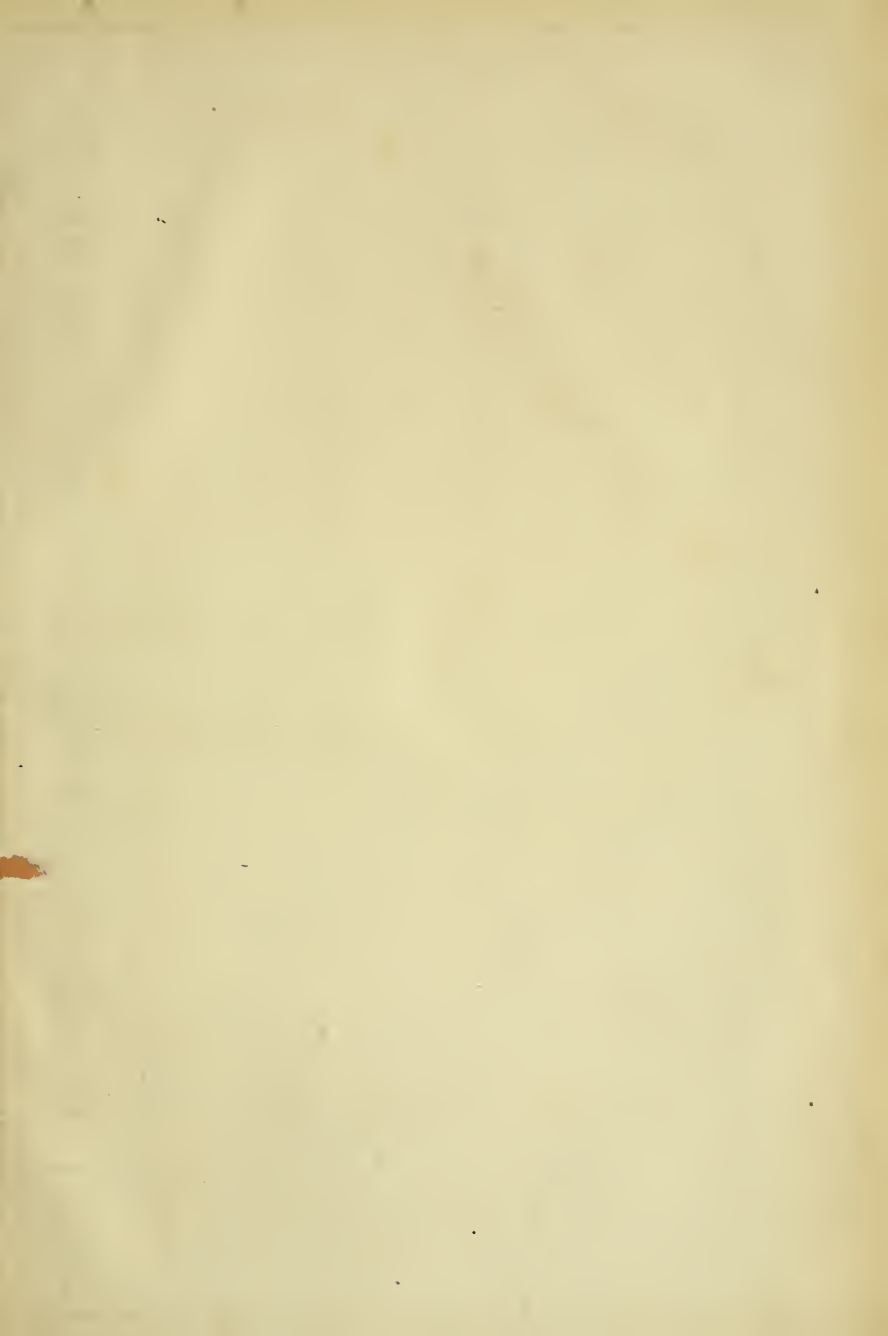
One thickly, well-spread tree, with handsome rounded head, is worth a dozen mean, slim, tall, gaunt, bean-pole-like trees, with little top, casting its refreshing shadow over the ground.

Thin and prune trees and shrubs according to the habits of the variety, instead of following any Procrustean or arbitrary rule; and to do this, we must study and make ourselves familiar with the growth and habits of different varieties and species.

The good gardener is never lacking for work to do; let the season be what it may, he can always find employment, having the power of foresight and forethought; and particularly is this an advantage during winter, as then he can anticipate spring work by laying in his stock of manure, seeds, grafts, soils for potting, hot-beds, etc., repairing old and procuring new tools, trellises, stakes, labels, etc.; no call for idleness, where proper judgment and forethought are exercised.

Large unbroken lawns are the exception in this country, and where one is seen the heaviest expense consists in its proper care; but with our improved lawn-mowers a great amount of manual labor is saved. The mower used once a week, or more frequent, and the grass allowed to decay where it falls, will keep the lawn looking fresh, and the surface like a smooth, green velvet carpet.

Inequalities in the lawn, as small depressions, etc., are unfavorable to the economical use of the machine; such may be graded by filling in good fine soil, leveling and smoothing during winter or early spring, sowing with lawn grass-seed, and be rolled heavily. Unless a lawn soil is deep, it is apt to dry out, or suffer during our hot dry summers; so that when new grounds are prepared, they should be deeply worked and well underdrained.



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